

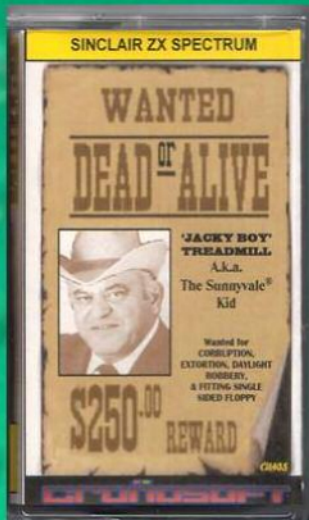
ZXF10



1995 wasn't a good year for the 8 bits... ...2005, however was GREAT!



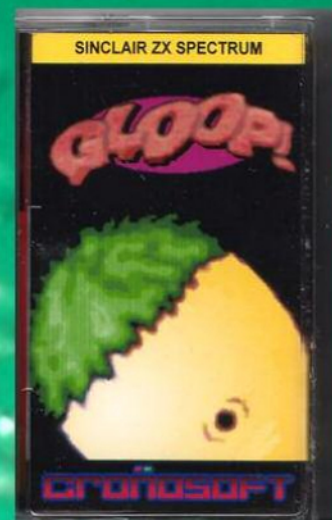
SPECTRUM £1.99
EGGHEAD IN SPACE



SPECTRUM £2.99
DEAD OR ALIVE



SPECTRUM £2.99
HOP 'N' CHOP



SPECTRUM £2.99
GLOOP!



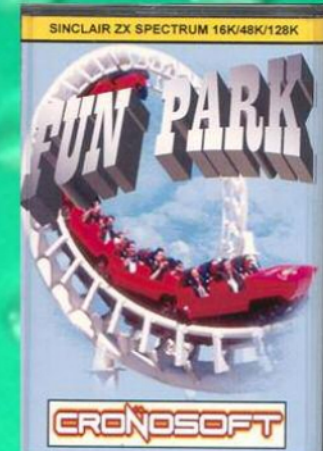
CBM 64 £1.99
REAXION



AMSTRAD £1.99
SMIRKING HORROR



CBM 64 £1.99
CYBER WING



SPECTRUM £1.99
FUN PARK 16K

CRONOSOFT

WWW.CRONOSOFT.CO.UK

32 Peter Paine Close, Butterwick, Boston, Lincs
PE22 0HA—United Kingdom

Postage charge 99p per order (UK). For Euro/World orders.

Please see website for more information.

Please make cheques/postal orders payable to "S. ULLYATT"

We are always looking for new software to release on all formats.

Good royalties paid. Please contact us in confidence.



SPECTRUM

£2.99 ZXFM 2005



Hardware, Software, Magazines, Spares and Repairs for the Sam Coupé

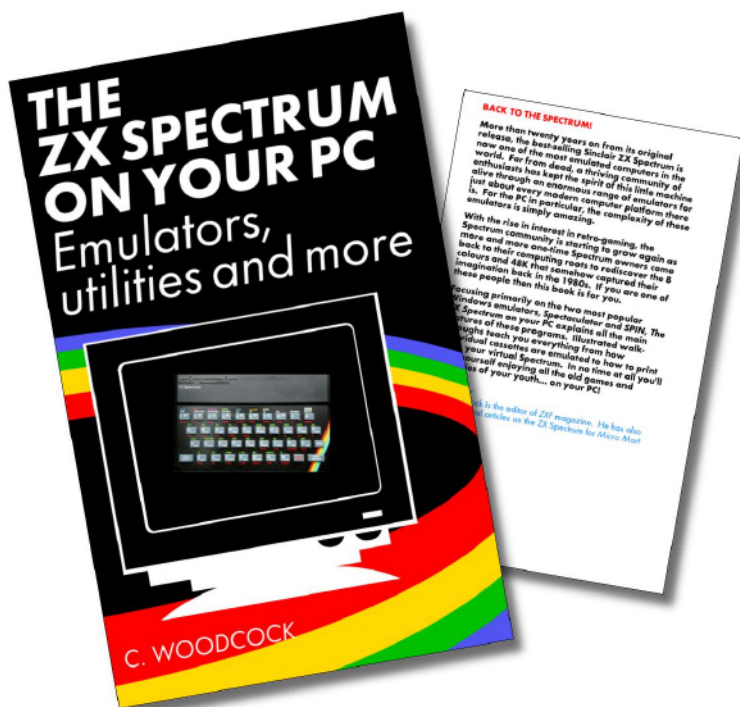
Address: Colin Piggot, 16 Belcanto Court, Spalding, Lincolnshire, PE11 3FS

Email: quazar@clara.net

Web: www.samcoupe.com

LOOKING FOR UNIQUE?

ZXF merchandise: treat yourself to a piece of 21st Century ZX Spectrum memorabilia...



The ZX Spectrum on Your PC

"well-written and superbly presented" - Micro Mart

Downloaded over 2,000 times and featured on the **Retro Gamer** cover disk, this guide to Spectrum emulation on the PC is the perfect introduction for ex-Spectrum users returning to their first ever computer. Written by ZXF editor Colin Woodcock, *The ZX Spectrum on Your PC* teaches you how to use modern PC emulators to play all those old favourites, as well as some of the more advanced features on offer too. You've read the electronic version, now enjoy the luxury of a professionally printed paperback!

78 page paperback \$11.99 (about £6.60)

ZXF Mug

Now you too can own a mug to be over-possessive of at the office!

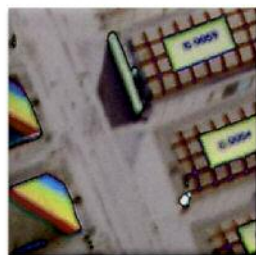
~~\$14.99~~ Now just **\$12.99 (about £7.15)**



Tile Coaster (ZXF07 cover design)

The perfect home for your ZXF mug (other mugs also compatible).

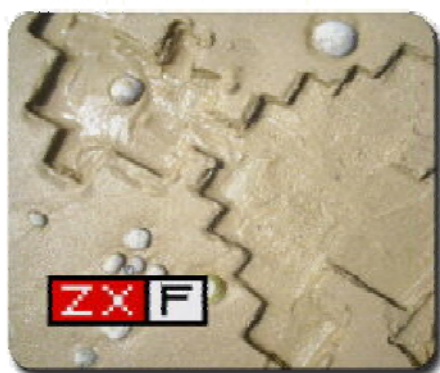
\$5.99 (about £3.30)



ZXF Mousepad

The popular issue 8 Manic Miner cover is now a durable, clothtop mousepad.

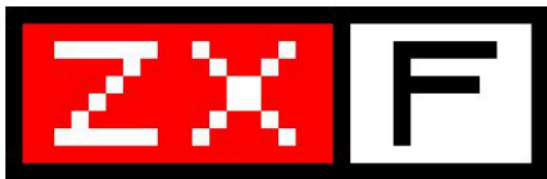
\$12.99 (about £7.15)



CHEAPER THAN YOU THINK!
Take advantage of super-low exchange rates
\$1 = £0.55 approx

Currency confusion? \$1 = £0.55/€0.80 approx (exchange rates can vary) so \$5 = £2.75/€4.00 approx, \$10 = £5.50/€8.00 approx and so on. Please note: ZXF merchandise is provided by www.cafepress.com, an American company, and items sent outside of the US will incur an international shipping fee of \$7.00 (approx £3.85/€5.60) for one item, with additional items charged at \$4.00 (approx £2.20/€3.20) per item thereafter.

www.cafepress.com/zxf



SPRING/SUMMER 2005 Issue 10

Contents

new	Twelve pages of Spectrum news. p8
wibble	Your views and opinions. p20
load	<i>Higgledy Piggledy</i> and more. p30
poke	Pointy sticks at the ready... p35
int	Douglas Harter explains WinPAW. p38
restore	A simple, yet effective modification idea for a +2B p40
exp	Unlocking the Sinclair code p42 Soundtracker tutorial part two. p46 Spectrum emulation on the GP32 p50 A brief history of ZXF p52



If you enjoy ZXF and you want it to continue then consider yourself duty bound to let me know this (mail@cwoodcock.co.uk or by the feedback form). All other feedback will be gratefully received too.

ZXF has a voluntary purchase scheme. If you have downloaded and enjoyed an issue of ZXF, and if you are able to afford to, please consider paying £1 for your issue via the Paypal button on at the ZXF website ('magazine' page).

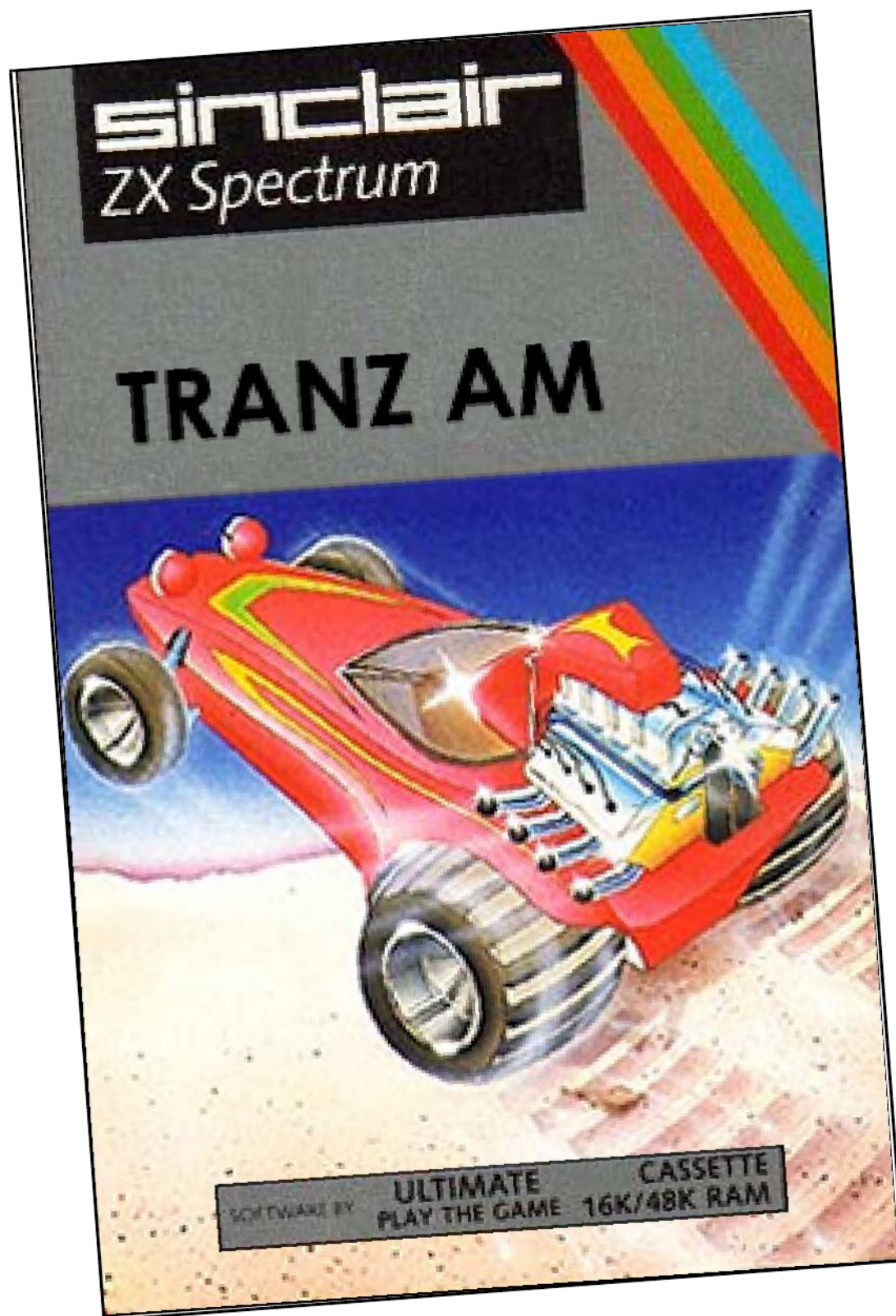
Editor: C Woodcock (mail@cwoodcock.co.uk)

Website: www.cwoodcock.co.uk/zxf

Contributors this issue: Matthew Westcott, Matthew Wilson, Simon Goodwin, James Zeun, Douglas Harter, John King, Simon Ulyatt, Colin Piggot and Thomas Eberle. A big thankyou also to all letter writers and news contributors.

ZXF magazine is copyright © C Woodcock 2005

All contributors retain their own copyrights.



HAVE YOU SEEN THIS GAME?

Rare doesn't even begin to describe this title... if in fact it exists. The coding system used by Sinclair suggests that it does, but other Sinclair silver inlay re-releases of the Ultimate titles - although hardly common - do crop up on ebay from time to time. Not so Tranz Am. The image above is a mock-up; if you have seen the real thing then ZXF would love to hear from you. www.cwoodcock.co.uk/zxf

Read more on page 42



As most of you are already aware this is to be the last issue of ZXF for the time being. I've known for a while that it would be - there's just too much for me to do at the moment - and I wanted to go out with a great issue that left you wanting more. Well here it is: the biggest issue yet - 56 pages - with some of the best content so far.

It feels good to be ending on issue 10, pretty much bang on three years after the project started. It is my intention to return to it at some point in the future; I'm quite deliberately stopping now *before* it gets dull or annoying (I've had a great time putting this issue together) so that the desire will still be there once the time is. But I don't know when that will be.

So how successfull has ZXF been? Well issue nine attracted well over a thousand downloads - and that's only counting the 'whole issue' downloads (ie, it doesn't include the part A/part B downloads available for making the printed version). It's received attention in **Micro Mart**, **Retro Gamer** and **Games TM**. It's been included on Retro Gamer's cover CD, incidentally, alongside my spin-off book, *The ZX Spectrum on Your PC* (which itself has been downloaded from WoS a staggering 2,500 times). Undoubtably the thing that makes me most proud is the number of countries in which ZXF is being read - well over 20 at the last count.

Enough of the trumpet blowing; I have a serious proposal to make. One of the functions I have always worked hardest on with ZXF is its role as a news digest of events in the scene. There are other places you can get all this information from, but not as much in one place; I always hoped the magazine would be useful to any historians of the future wanting to document the aftermath of the Spectrum's heyday and its continuing life in 21st Century. If ZXF has been successfull in this role then a gap now exists and I think this is an opportunity for someone to grasp.

But rather than just another magazine edited by another person in the community, what I think would be really great would be a publication affiliated with either WoS or with CSS that is overseen by a group of people and specifically edited by a different person each year. I'm kind of thinking the Crap Games Competiton approach here, which has been extremely successfull in sustaining this contest - now into its tenth year.

So **WoS Times**, for example, could be hosted via a couple of pages on WoS, where there could also be a form for uploading articles or news items. It could be discussed in its own forums at WoS Forums - perhaps one forum for public discussion and a private forum for the 'Development Committee' to talk in. People could volunteer to do a year's editing in the forums and when it's time to select one this could be done through a vote if there's more than one candidate. And so on. The specific rules would be up to the committee to decide.

Alternatively, **CSS Today** (or whatever you want to call it) could follow the CGC model more closely, being hosted each year from a different web site set up by the current editor. Discussion would, of course, be done using CSS. Personally I prefer the WoS model, since then the editor wouldn't have to spend time making a website as well as making a magazine. But I'm aware that this is making an assumption of WoS in terms of its desire to host something like this - which may not be a valid one at all.

Making the magazine more of a distributed project would also help correct some of the short-fallings of ZXF - most notably the lack of coverage for emulators on other platforms (Amiga, RISCOS, Linux, etc) and the very poor coverage of the demo scene. Being jointly 'owned' in this way might also encourage more people to write things for it.

I think it's an idea worth discussing at least and I'll be starting up a thread on WoS for this once this issue's been out a day or so. My hope is that timing it this way will channel your great sadness at the passing of ZXF into enthusiasm for a better replacement ;)

ZXF has been a great project to work on and I've enjoyed every aspect of it immensley. To all my contributors over the years I am extremely grateful and I cannot thank you - the reader - enough for sticking with this little 'zine and spreading the word afar.

Until next time.

Colin Woodcock
mail@cwoodcock.co.uk



TZXF IS HERE

>Cassette version of ZXF up for download

It's a project I personally was seriously beginning to doubt I'd ever get even close to completing. But **TZXF**, the cassette version of ZXF Magazine, is now a joint UK-Romanian venture and, thanks to the help of **Cristian Grecu** - who got in touch with ZXF just after issue nine had gone out - the first two issues are now ready to pull off the Internet and load into a real Spectrum.

The cassette versions are for a 48K Spectrum and feature the news section of each issue along with the editorial and game reviews. Each issue is a BASIC program with a small machine code routine giving 42 column text (Sinclair's own **Print Utilities**, in fact). Cristi typed up each magazine on his **HC-2000** (a Romanian Spectrum clone) and I edited his output using a combination of **BASin** for making alterations to the program and **Spectaculator** to check it all looked ok. Loading screens were put together using **ZX-Paintbrush**, **BMP2SCR** and **YASPIC**. Just to round things off, copious use was also made of **Taper**.

An international effort, then, in many ways. Which has made the project very satisfying. After all his hard work, ZXF wanted to learn a little more about Cristi and so I asked him a few questions:

ZXF: Tell us a bit about yourself.

CG: Let's have a look at the "ZX certified" people: 8% of them passed the exam. These are the masters of the ZX Spectrum. But let's think a little at the others 92%. Average users, most are still using the ZX Spectrum, others have a small website about it, all of them used and were impressed by this wonderful machine. Well, I'm just like them; just a guy who felt in love with the ZX Spectrum; a guy who prefers staying in front of a blinking cursor, working on a program that will never be used by anyone, rather than going to the disco or to a soccer game.

ZXF: How did you first come into contact with the Spectrum? Was it a UK model or a Romanian clone?

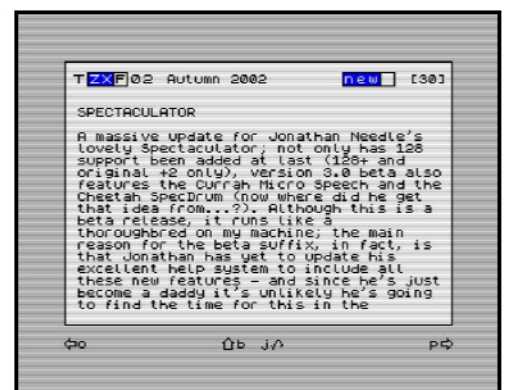
CG: I first met the ZX Spectrum in 1994: I was five years old, and the Spectrum era has just faded. My father gave me a HC-85 (Romanian clone of the 48), and taught me how to load games. Later, I learned BASIC, assembler and various utilities. Last year, an old dream was accomplished when I bought a HC-2000 (clone of the 48, with internal FDD unit), that I'm still using today.

ZXF: Do you mostly use real hardware or do you prefer emulators?

CG: Even the best emulator can't be compared with a Spectrum that works perfectly, on a color TV. I have never written a program on an emulator.

ZXF: When did you first learn about ZXF? What caused you to want to get involved with the TZXF project?

December 2004, Christmas Eve. Out of ideas, I was navigating on the World of Spectrum website when I saw a link to the ZXF website. Following the link, I found a very interesting magazine for both advanced and beginner users, presenting the development of the ZX Spectrum in the 21st century. I found the TZXF project an opportunity to help someone, especially because I can contribute a little to the development of the ZX Spectrum.



BAFTA AWARD TO TEXT ADVENTURE

>BBC remake of HHGTTG game celebrated at www.bbc.co.uk/radio4/hitchhikers/game.shtml

Fans of the late **Douglas Adams'** classic **Hitchhiker's Guide to the Galaxy** books will no doubt be aware that the text adventure of the same name is a rather special piece of work because it was written by Douglas himself. Written in 1984 using the Infocom system, the game didn't make it to the Spectrum until the +3 came along.

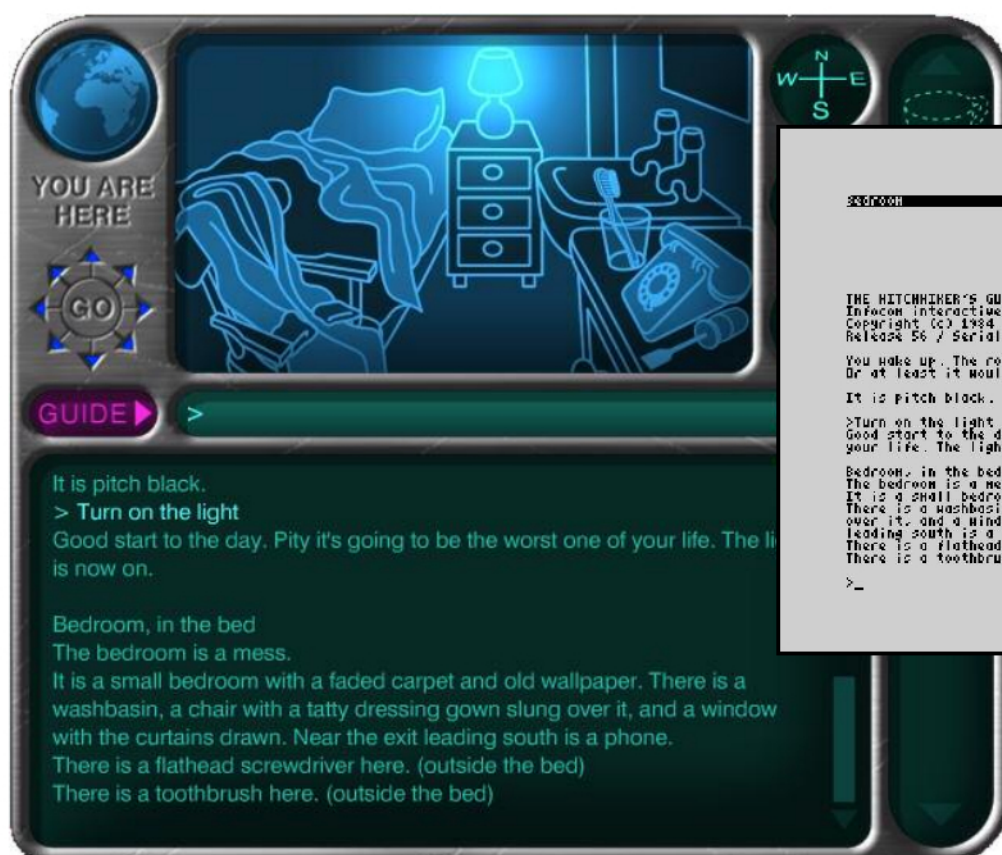
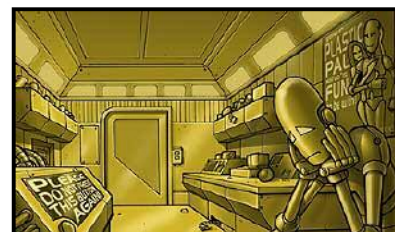
2005 is a bit of a milestone year for Hitchhikers fans because the film version - a project in the pipeline for so many years - is finally due out this spring (and will probably be playing by the time you read this). Initial reviews at this stage look very disappointing, unfortunately.

But it's not all bad news: at the same time that the film opens, **BBC Radio 4** will be airing the fourth and final radio series following last autumn's much-anticipated 'Tertiary Phase' third series which re-united many of the cast of the original series (first aired 1978 - 1980). At

the time of The Tertiary Phase's recording the BBC decided to celebrate by re-making the original text adventure - then 20 years old - for its online audience. The actual text remained the same, of course, but a new interface and graphics were added.

Drafted in to update the game were **Rod Lord** creator of the Guide's wonderful graphics in the 1980s TV version of the story and **Sean Sollé** from Douglas' own company **The Digital Village**. The game has been an immense success for the Radio 4 website and was honoured in March with an **Interactive BAFTA** award.

Now the game has been developed even further; following BBC Online's request for visitors to design new graphics for locations and objects without pictures, the artwork of **Nolan Worthington** and **Andrew Wyld** have been added in to create two new editions. Proof if proof were needed then that great games don't die.



```

Bedroom                                0/1

THE HITCHHIKER'S GUIDE TO THE GALAXY
Infocom Interactive Fiction - a Science Fiction story
Copyright (c) 1984 by Infocom, Inc. All rights reserved.
Release 56 / Serial Number 841221

You wake up. The room is spinning very gently round your head.
Or at least it would be if you could see it which you can't.
It is pitch black.

>Turn on the light
Good start to the day. Pity it's going to be the worst one of
your life. The light is now on.

Bedroom, in the bed
The bedroom is a mess.
It is a small bedroom with a faded carpet and old wallpaper.
There is a washbasin, a chair with a tatty dressing gown slung
over it, and a window with the curtains drawn. Near the exit
leading south is a phone.
There is a flathead screwdriver here. (outside the bed)
There is a toothbrush here. (outside the bed)

>_

```

The brand new, BAFTA winning BBC remake of the classic DNA text adventure, alongside the Spectrum +3 version.

OCEAN VIDEO

>Dedicated video page

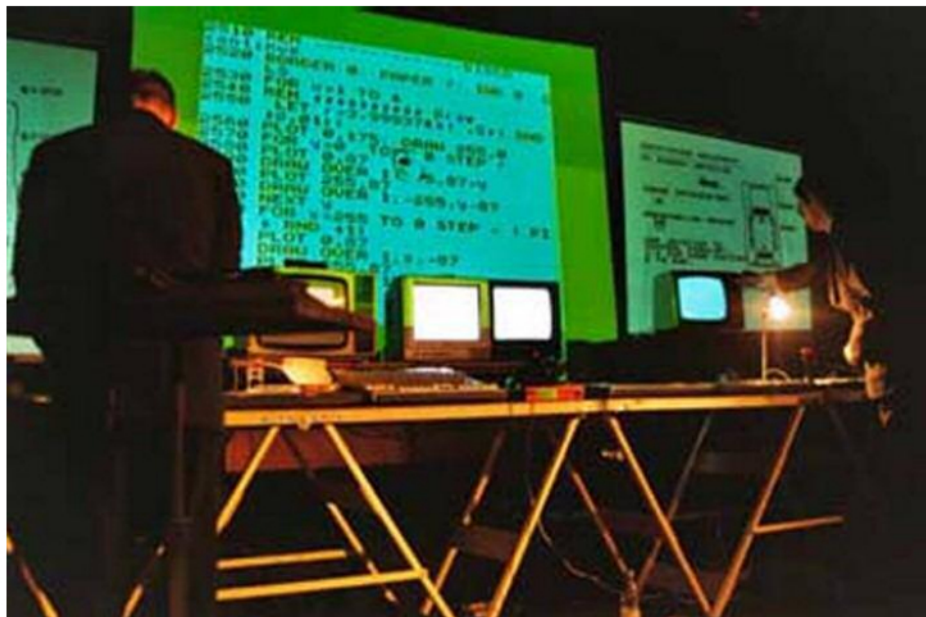
theoceanexperience.co.uk is a new website and discussion forum started up earlier in the year by ex-Ocean employee Mark R Jones and aims to collect together all sorts of artefacts regarding the experience of working at Ocean in the 80s and 90s. One of the most interesting pages is his video collection page; as well as the fantastic Commercial Breaks documentary (see last issue) there's a 72 second 'Chegwin Checks It Out' feature where broadcasting legend Mr Keith Chegwin visits the Ocean coding parlour to ask all the questions on the lips of 80s Britain. Even more interesting (as if anything could top that) is the behind-the-scenes home movie of Cheggar and his film crew setting the whole thing up; be amazed as you witness such trade secrets as smiling and nodding at the camera to look interested...



CHIPTUNES GALORE

>Online radio examination

Sincere respect is due to **CSS** and **WoS Forums** regular **Sharopolis** for an absolutely cracking radio documentary on ZX Spectrum music presented on **Flat four** (www.mclld.co.uk/flatfour) during the first couple of weeks of April. Produced with his mate Dan, Sharoplis presents the programme, taking the listener on a journey that starts with some modern **AY** tracks and an interview with **AY Riders** artist **Matthew Westcott** (aka **Gasman**); from there we are treated to a rare interview with the legendary **Tim Follin**, creator of so many classic ZX tunes in the eighties and one of Matthew's



personal inspirations.

And then we meet **The ZX Spectrum Orchestra**, described by the artists involved as "basically an orchestra of Spectrums." This fascinating segment introduces us to **Mike Johnston** and **Brian Duffy** two members of the group who are now co-ordinating whole groups of the machines musically in front of live audiences - a process described as being akin to "having a gang of naughty schoolchildren on the stage" (a quite wonderful comparison, I think, given the schoolboy heritage of the Speccy). Apparently the project all started when Brian bought a Spectrum manual out of curiosity at a car boot sale and read about the 'BEEP' command - and wondered if it was possible to create music with it... The live setup involves attempting to 'conduct' different Spectrums - each with a different function. One is a dedicated **Currah MicroSpeech** unit, for example; another runs the Wham Drum Machine. I can't even begin to imagine how hard that must be.

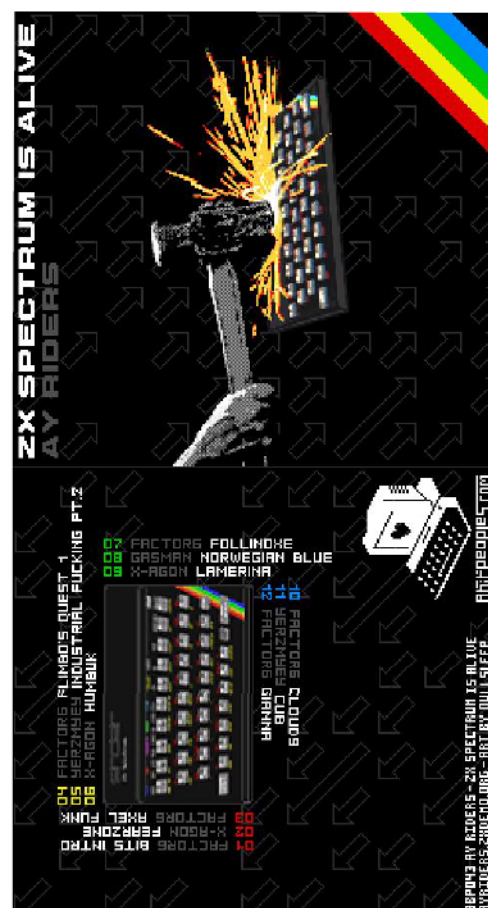
There's lots to be read about The ZX Spectrum Orchestra, incidentally, over at www.redkeyreddoor.com, including an interview with the group and reviews of their live gig in January by both Gasman himself and band member Mike Johnston (check out www.redkeyreddoor.com/index.php?p=48 for an overview of all articles and links). Their official home on the net is to be found at www.warmcircuit.com/webn/artist.php?artist_id=2, where you can learn about their upcoming commercial releases, including a CD EP which apparently has already sold out. Finally, the group have produced a music video called **Look and Listen** (programmed by Mike Johnston) which can be downloaded from www.7inch.org.uk/About_7inch/Film_of_the_month.aspx AY Riders it ain't, but with the right company



and lager it should give rise to some interesting conversations!

On the subject of the **AY Riders**, the AY chiptune champions have recently released a new CD at <http://8bitpeoples.com> which can be yours for the tiny price of \$7 US (you can also listen to the tracks online, as well as downloading the cover art). **ZX Spectrum is Alive** is the follow-up to their third album **8 Bits Is Enuff** and features tracks by Yermey, X-Agon, Factor6, and Gasman.

Gasman, of course, is currently a ZXF guest columnist; you can check out the final part of his Soundtracker tutorial in this very issue, where the final touches are being put on his rendition of the Doctor Who theme. And so the music continues. As Sharopolis concludes so eloquently in his radio programme, "23 years on enthusiasts are still keeping the Spectrum beeping." Long may it be so.





NEW COOKIE

>Remake of early *Ultimate classic*

You know **Cookie**. Of course you do. Help Charlie Chef make his cake by deflecting the ingredients from the pantry into the mixing bowl and at the same time, of course (I mean, it's not like you ever get to do only one thing at a time in a Spectrum game - especially those knocked out by *Ultimate* - where would be the challenge in that?) avoid any nasties that might escape from the pantry or dustbins that will make your job harder. Fans of *Cookie* will no doubt be delighted to learn that they can now re-live these cake-making frolics in glorious technicolour thanks to **Space-Time Productions Ltd**, who reside in that corner of the web to found at www.spacetimegames.co.uk. The remake - for that is what it is - is a collaboration between coder Steve Watson and graphics person OddBob. And it runs on Windows. Yes.

NEW LABELS

>Download for 3 inch disks

A simple, yet elegant idea from **swordheart**. Well where does one go to get 3 inch disk labels from these days? Not to Dixons, that's for certain. Not even to the guy on the market who does bulk-buy DVDs, replacement ink cartridges and an interesting line in novelty crystal. No. These convenient downloadable pages, however, are designed to be printed off onto A4 sticky labels and cut out. Simple. Now A4 sticky labels the



guy on the market does do...

SMITH ANALYSIS

>Willy creator to be immortalised

Emulator author **Adrian Robson** has contacted ZXF about a new project he is working on:

"I'm writing a book about Matthew Smith, Manic Miner, Jet Set Willy etc. This will be an A5 book that people can buy and some of the money will go to charity. The book will cover Smith's early years, Manic Miner, Jet Set Willy, All other versions of Manic Miner & Jet Set Willy, Screen shots etc, chart listings, hacking, what the future holds for Miner Willy and a bunch of other stuff. I'm about half way through at the minute and I'm very pleased with what I have so far. I want this to be the definitive book about Matthew Smith and Miner Willy, and I'm hoping that people who already know a bit about it all will find something interesting in there to read."

SE NEWS

>Andrew Owen update

Andrew Owen has also been in touch with ZXF to update us on the progress being made on his two projects, **SE Basic** and the **ZX Spectrum SE**. Regarding the former, the official website at www.worldofspectrum.org/sinclairbasic/ has been updated with new links and the latest version of his extended version of Sinclair BASIC (0.94B, released 16/12/04). Andrew has also added information on the differences between previous releases on the manuals page. He now has all the code to finish this project, but it's currently on hold again while he works on something else.

Regarding the ZX Spectrum SE, Andrew's hardware enhancement of the original ZX Spectrum produced in collaboration with Yarek Adamski, Andrew has

recently introduced ZXCf technology into this device, resulting in the **ZX Spectrum SE/CF**. ZXCf is the amazing Compact Flash interface by Sami Vehmaa for any Spectrum, giving it potentially enormous high-speed storage potential without the need for any hard disks and all their associated clutter. If you want to see what a ZXSE/CF would look like, it is already available in emulation using **FUSE**: just select the Spectrum SE model from the emulation list, activate the ZXCf interface and you have a working ZX Spectrum SE/CF environment.

Recently the ZXSE website at <http://zxse.raww.net/> has also been updated, including updated links and a new ZX Spectrum SE and Timex 2068 software archive. 99% of the Timex software in the archive will run on the ZX Spectrum SE using the Timex 2068 emulator. The archive also includes emulators which will run on the ZX Spectrum SE for the ZX80, the ZX81, the Timex 2068 (with help from Paul Farrow and Alvin Albrecht) and Shadow of the Unicorn SE. Shadow of the Unicorn, if you didn't know already, was a 64K Spectrum game by Mikro-Gen that required a peripheral device to be plugged into your Spectrum which replaced its 16K ROM with 16K's worth of game to supplement the remaining 48K that you then loaded in from tape. All very complicated and the SOTU SE emulator cuts out a lot of the mucking about.

Development of software for the ZX Spectrum SE is on hold for the time being, however future releases promised include a ZX Spectrum emulator (16K/48K) and a debugged version of 128 Basic (hopefully with an extra 16K in the RAM disk). When he gets time Andrew will also be releasing Elite DX, featuring minor graphic enhancements based on the NES version (Ian Bell's favourite 8-bit version, so I'm told).

CSSCGC TURNS TEN

>Tenth anniversary of Cascade 50 tribute

How's this for a truly staggering fact: for ten years now we've been hammering away at the rubber keyboards to produce the worst games conceivable, all out of love and recognition for the world's worst ever computer games compilation, the Cascade Cassette 50. How many of us would have thought back then, as we cursed the seductive allure of the free digital watch and sobbed over our £9.95 forever lost to the clutches of Mr Cascade, that one day we would come to look upon that little blue and yellow box with something limping its way towards affection?

The 2005 comp.sys.sinclair Crap Games Competition competition, then, is being hosted by CSS regular decay and already the entries are arriving. Top of the list is last year's winner Paul Equinox Collins with his new version of Space Invaders, 'Invade-o-Trons from Planet Q'. Paul claims on the opening screen that he sincerely believes Invade-o-Trons "to be the worst Space Invaders game ever written"; ZXF can report this perception to be a highly accurate one.

In a break with well-established tradition the competition this year has got its act together before the summer solstice and actually aims to complete the submission process by the end of the year, so if you'd like to make a submission to the competition you have until December 31st to put your entry together. Entries can be made as .z80, .sna, .tap and .txz files for Spectrum games, .p files for ZX81 games, and .o files for ZX80 games.

Hopefully this year's competition will see a return to using judges after recent attempts to introduce democracy to the judging process resulted in such scandals as awarding first place to actually good games masquerading as bad ones (2003) and awarding first place to the first game on the drop down list by just clicking on the 'vote' button (2004). There are rumours that Matthew Lewis, one of the original Cascade 50 authors, is up for doing duty as a celebrity judge. A good punishment, if overdue... www.lofi-gaming.org.uk/speccy/cgc2005/

CRASH TALK

>Dominic Handy interviewed

Matthew Wilson, maintainer of **CRASH - The Online Edition** (<http://crashonline.org.uk>) has managed to pin down ex-editor **Dominic Handy** for an interview.

Handy, who edited CRASH from issue 55 to issue 62, reveals some fascinating insider information in the interview, including how - in the days before editorship - he was employed for reviews he didn't write and how his face was used for a reviewer who didn't exist! Perhaps the most scandalous revelation is confirmation that the never released **Rainbow Arts** game **The Great Giana Sisters** only got its CRASH SMASH because it was featured on the cover of issue 55. According to Handy, Rainbow Arts owners **US Gold** were so desperate for a hit they managed to persuade him to get CRASH resident artist **Oliver Frey** to design a cover based around the game before a review copy made its way to Ludlow. When they finally

did get a copy the game was rubbish, but "we didn't have much choice than give it a CRASH Smash as we'd put it on the cover." Tch. Eh?

You can read more at <http://crashonline.org.uk/99/handy.htm>

ZX CLUB

>Gaming like it used to be

If there's a problem with the modern Spectrum scene, it's that there is *too much* choice when it comes to playing games. With thousands of titles to choose from at WoS, few of them ever get played at anything like the depth that they used to when your next eight bit purchase was at least a few paper rounds away.

Such is the rationale behind the **ZX Club**, a club set up to encourage players to spend a little time getting to know a game. Operating from a small site at <http://mysite.wanadoo-members.co.uk/zxclub> the club members also use WoS Forums as

their primary medium for discussion: a new game is chosen each week by the members and discussed as play progresses.

It's a neat idea and the club appears a well-organised affair. Games played so far include Booty, Uridium and Rogue Trooper. Visit the site for more details.

PGD IS GO!

>Cronosoft designer released

Reviewed last issue, **Cronosoft's Platform Games Designer** by **Jonathan Caldwell** took a while to make it to the virtual shopfront at www.cronosoft.co.uk, but in the last couple of weeks (at the time of writing) it finally made it there and judging by the initial response it seems to have gone down a storm. Deservedly so. The full package includes both the Linear Designer and the Explorer Designer as well as a sample game and costs £4.99 for a DVD-cased cassette or £3.49 for an emulator file. Get coding.



IN DENIAL

>Permission matters

With the rise in popularity in retro gaming it was perhaps inevitable that a few copyright holders would examine their ownerships afresh to see if there was any new cash to be made in their handling. And so, over the past few months, distribution permission has again become a topic for hot debate, sparked by the very firm denial of distribution permission by **Paul McKenna** (no, not the hypnotist) of Thor and Odin titles at **www.worldofspectrum.org**. This particular piece of action was met by outrage by most WoS regulars - not so much by the decision itself as by the manner in which it was communicated ("It appears that you have on your site various games that are MY copyright and ownership. I intend to take proceeding against you and your company!"). Although Mr McKenna did become a great deal more polite in subsequent emails (a testament, no doubt, to WoS maintainer **Martijn van der Heide's** superb diplomacy skills), the community were unprepared to forgive him for assuming the worst of us and blundering in with such threatening language.

A key issue highlighted by Mr McKenna's emails and the debate they gave rise to was that of copyright belonging to the companies employing software writers in cases such as this, not to the software writers themselves. It appears that **Steve Wetherill**, a former employee of Mr McKenna and - by Mr McKenna's own admission - star programmer of many of the titles concerned had indicated that he was happy for his titles to be distributed from WoS; Mr McKenna was very quick to point out that this permission was not Mr Wetherill's to give.

Since the McKenna denial there have been further distribution developments, perhaps the most prolific revolving around an email allegedly sent by software house

Activision to retro gaming site **www.gamestage.net** asking them to remove Activision and **Electric Dreams** games from this site. In a long and rather confusing thread at WoS Forums, the owner of Gamestage asserted that he had received this email but that its contents were confidential. WoS at the time had received no such request from Activision, which was rather confusing since WoS has a first page Google ranking for both "Sinclair Spectrum" and "ZX Spectrum," whereas Gamestage's ranking on these search terms is nowhere near this high - if Activision were looking for websites to contact regarding the distribution of Spec-trum games, how did they come across Gamestage before WoS?

In the end (from what I can make out - the thread was a record 16 pages long last time I looked) Gamestage chose to share the Activision email address it had with Martijn, who then contacted the company only to be told that - yes - these titles were denied. It has to be said they did put this rather more politely than Paul McKenna.

Game Gamestage? Hmm... This incident in particular has highlighted for many the different ways in which copyright issues are treated between WoS and other emulation sites such as Gamestage. Martijn's copyrights page on WoS (**www.worldofspectrum.org/permits**) gives a very clear summary of his views regarding copyright and he displays all emails he has received regarding permission, listed according to both software houses and individual programmers (that's a lot of emails). Gamestage does also claim to be actively pursuing distribution permission by writing to software companies; in contrast to WoS, Gamestage doesn't show any actual evidence of this, other than listing the companies they claim to have received permission from, but the key difference is deeper than this. The gist of Martijn's stance is that the copyright owner's decision

is unquestionably final; Gamestage, however - although they acknowledge this right - express distain at denials received nonetheless ("We really hope that someday all enterprises will understand our point of view and let us distribute their products with no 'buts'"). The expectation is sort of that companies *should* permit distributon.

The difference in approach is perhaps best illustrated through the two websites' recent responses to yet another development in distribution issues - the emergence of a brand new retro software label called **Retro-Soft** and their arrangement with the **Shaw Brothers** regarding their back catalogue of games. The deal means that Shaw Brothers titles will be removed from free distribution, and this is how WoS covered the news:

We have another confirmation that retro gaming is still growing fast: The brand new retro software label Retro-Soft signed an exclusive deal with Shaw Brothers, to bring various of their games back to commercial status. Apart from selling the original Spectrum versions, Retro-Soft announces to remake those games for mobile phones.

Although of course these games were removed from the archive, it looks like the Spectrum's future is as bright as ever (especially considering it was picked before other systems)!

Gamestage, on the other hand, reported the event in much more negative terms (and also confused 'Retro-Soft' with 'Retro-Trader'):

More sad news! This year seems to be getting worse for Spectrum fans and Gamestage! Retro-trader company has signed an exclusive license contract with The Shaw Brothers, which

means that several games (some from Atlantis Software) were removed from our website.

Retro-trader

(<http://www.retrotrader.com/>) also assures that more games will become denied, so let's wait and see what they are up to!

In the midst of all this there is at least one good example of how we in the community might imagine old software might be put to use - the publishers of **Fighting Fantasy** books (such as *Warlock of Firetop Mountain*) - recently re-published and to be supplemented by new titles (boy does that take me back) - have actually suggested on their website (fightingfantasygamebooks.com) that readers download Spectrum versions of *Warlock of Firetop Mountain* and *Forest of Doom* to play for free. The positivity towards the Fighting Fantasy books coming out of the thread on WoS where this was discussed is a marked contrast to the negativity towards Paul McKenna following his intervention and underlines the point made by several posters in the latter thread that Mr McKenna has done himself no favours by taking the approach that he has. After all, his aim with the games in question is to develop versions for mobile phones. Perhaps he thinks the Spectrum community can't possibly have an influence on the wider audience he is hoping exists for this product, but this is not the sort of risk that astute business people tend to take. **Retro Gamer** last year positively bent over backwards to try to keep the various retro gaming communities happy, seeing this population as one of their core audiences. If Mr McKenna is unaware of the size of this community then he clearly has not researched a market he is hoping to enter.

At the same time it's up to us to keep our tone moderate and friendly, and to recognise - as in the Retro-Soft example - that sometimes the good of the Spectrum outweighs the removal

of less than 0.1% of the current archive. In our dealings with the software houses today which own the intellectual copyright to the titles we would like to be able to distribute it's up to us also to remember that the people we communicate with potentially have little or no knowledge of the Spectrum, of Spectrum games or of the modern Spectrum scene; at the same time they're probably trying to juggle 101 other jobs they're supposed to be delivering on and granting 'distribution permission' (whatever that means - they're probably unclear on that without legal advice) for a bunch of old games is probably nowhere near the top of their to-do list unless they're in serious work-avoidance mode. And if they're in any doubt as to the legal issues involved - which most of them probably will be - it will no doubt seem a much more attractive option to err on the side of caution and say 'no' than say 'yes' and later find out that they're in trouble with the boss for doing this.

If anything, it's amazing that so many companies have granted distribution permission given this; the lesson for us all - especially for Gamestage - is that this is likely to have been a success brought about by diplomacy more than anything else. Empathy is key. If we can successfully communicate that we understand the situation our contact is in - as opposed to just trying to convince them to do what we want them to - then the odds will be the best that they can be in our favour.

+D MOVE

>Small update

Rudy Biesma has contacted ZXF to let us know that his Disciple and +D disassemblies have been moved to a new website.

The new address is:
www.biehold.nl/rudy

SWEDISH TREASURE

>Missing ROM discovered

Self-confessed Commodore aficionado **Niklas Ramsberg** has stumbled across a very rare Spectrum at his local fleamarket - a Swedish version of the rubber keyed model by **Beckman Innovation**. The hardware is no different from an English Speccy, but its 16K ROM has for some time been listed as Missing In Action.

You can try out new ROMs in many modern emulators. In SPIN, for example, you can select a specific ROM from the Hardware tab on the Options box. Drop the ROM file into SPIN's folder and select it from SPIN for either the 48K or the 48K+.

The ROM gives a rather colourful reset and boots with a different copyright message than the standard 48K Spectrum. All error messages are in Swedish and the extra characters are available in extended mode with shift and S, D, F, G, Y and U.



Unsurprisingly, ROM fan Geoff Wearmouth was quick to leap upon the new file and pick it apart for secrets. It appears that the ROM is actually a little more clever than just a translation of error messages: many of the original 16K ROM's bugs (highlighted by Dr Ian Logan in *Understanding your Spectrum*) have been fixed in this file. So far Geoff has worked this out by running routines designed to force the errors that would normally be found; now he's going to work out how they did it.



OCEAN HAUL

>Microdrive data recovered

Covered elsewhere in this issue's news section is the opening of theoceanexperience.co.uk - a new website and discussion forum started up earlier in the year by ex-Ocean employee Mark R Jones dedicated to documenting the experience of working for Ocean as an employee in the 80s. A rather significant find in February was the discovery of a load of old microdrive cartridges which Mark had used to develop various graphics in his time at Ocean.

Announcing the find on his website in February, it was at first a bit of a head scratcher as to how the data from these cartridges was to be salvaged. But once Spectrum preservation expert **Andy Barker** got involved it wasn't long before those carts were well and truly mined for their data. In addition to early versions of now well-known loading screens such as **Wizball** and **Arkanoïd II**, the cartridges also contained previously un-seen graphics for an unreleased version of **Total Recall** as well as **Athena** mock ups that were never used and some graphics for an Ice-Hockey game that was never released. A major find, then. You can explore all the pictures at: <ftp://ftp.worldofspectrum.org/pub/sinclair/games-extras/MarkRJones/>

During the discussions that took place over at WoS regarding the project a rather nifty little routine devised by **Geoff Wearmouth** for transferring real microdrive cartridges to their virtual .MDR equivalents was brought to light by **Spectaculator** author **Jonathan Needle**. The trick requires Spectaculator emulating Interface 1 hardware, of course, and on both this and your Spectrum (with IF 1) the 1984 introduction cartridge with the *MOVE program on it. This is what you do:

- 1) Connect your Speccy's MIC socket to your PC's line-in socket.
- 2) Boot the Introduction cartridge

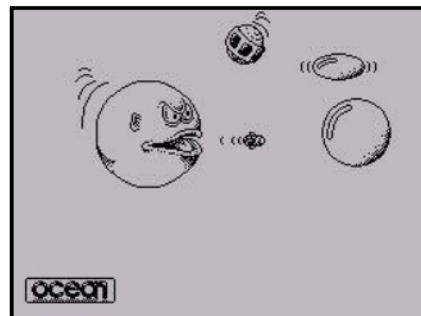
on your real speccy and load *MOVE

- 3) Boot the Introduction cartridge .mdr file on Spectaculator and load *MOVE + turn on "Load from Audio Source"
- 4) In Spectaculator, do a File>New and create a blank cart (.mdr file)
- 5) On your real Speccy set *MOVE to backup a cart to tape
- 6) On Spectaculator, set *MOVE to restore a cart (and thus to the .mdr file) from tape. Start it going
- 7) On the real speccy, put the cart to backup into a microdrive and start *MOVE backing up to tape

What happens it that the real Speccy backs up the cart and saves it to tape.

However, Spectaculator is on the other end of the audio cable with *MOVE running in restore mode so it just writes the data to the .mdr file. Magic!

Right: Evolution of a loading screen - from early ideas to finished work.



PLUS 3 PRINTERFACE

>Perfect printing for your +3

From WoS forums comes a nice little DIY project. **guesser** writes:

The +3 has a centronics compatible printer port, which is connected using a standard FDD edge connector.

A peice of ribbon cable about 5" long is crimped into the connector, and then the other end is opened out to 34 seperate wires.

The +3 manual shows the numbering of the port, and these have to eventually match the same numbers on the centronics type plug at the end of the normal cable.

Just open up the printer cable, and write down which wire is No.1

,2, etc. (on mine it went red, orange, yellow, etc) on the centronics connector, and which pin it corresponds to on the D-type.

Then solder the ribbon cable in the same order to the female D-type.

NOTE 1: some of the cables go to the same pins, solder all these pins together in a row, and then just tag the ribbon into the lump of solder.

NOTE 2: the ribbon cable is numbered in alternate rows for disc drives, for this cable the ribbon goes in the order;

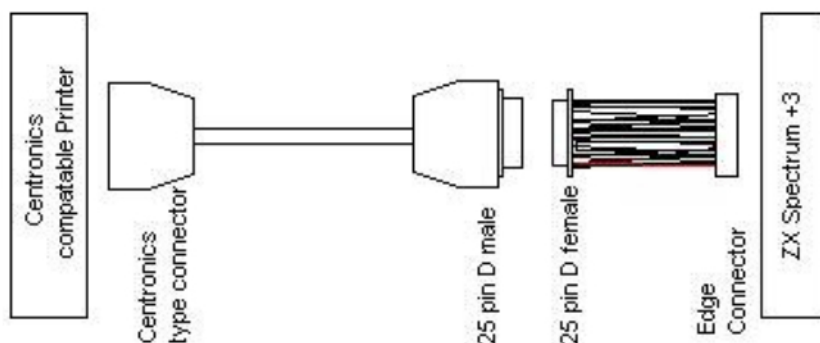
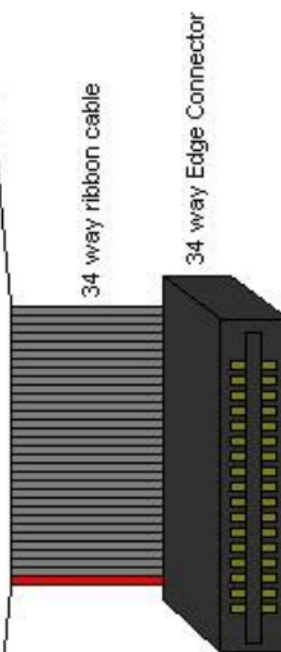
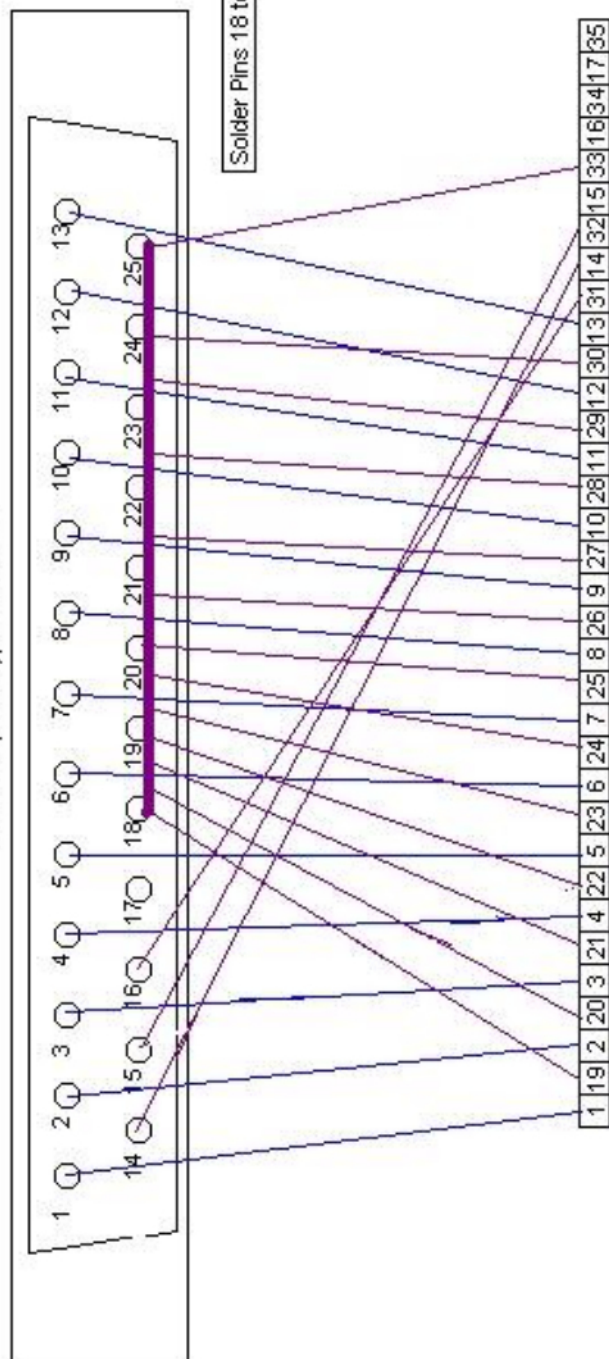
1, 19, 2, 20, 3, 21, 4, 22, etc (18 and 36 are non existent).

NOTE 3: if your centronics cable has a wire going to 36, IGNORE it.

printerface

xspectrumprinterface

Female 25pin D-Type Connector





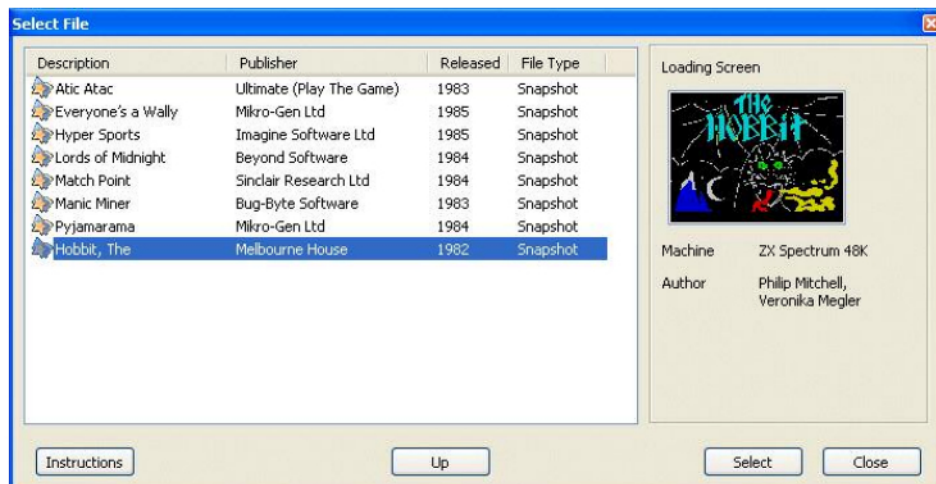
.NET ZX

>New Spectrum emulator in works

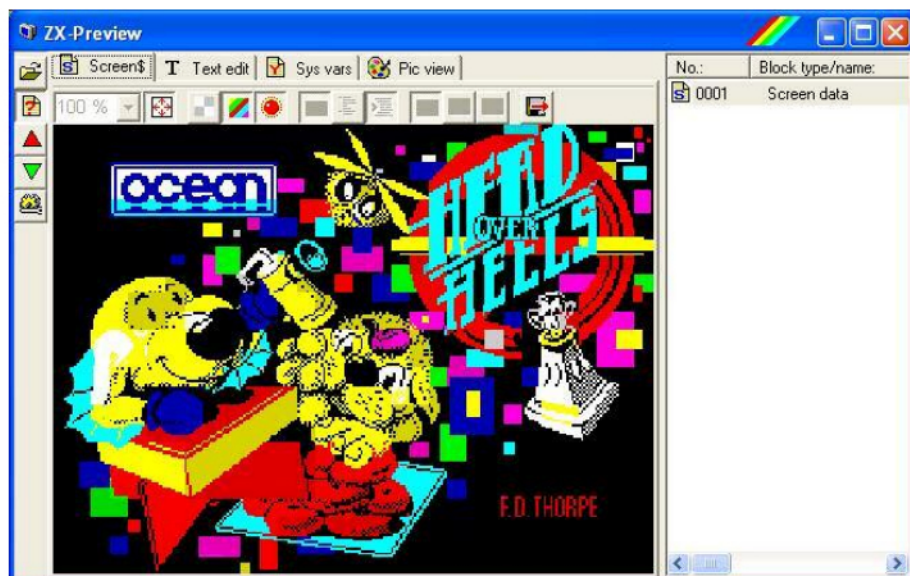
.NET is how Microsoft see the future of programs on the PC. Etc. It's a free upgrade to Windows XP that can be had from microsoft.com. And **Adrian Robson** is writing a new Spectrum emulator in it.

Currently a Spectrum Emulator Without a Name, Adrian wants his emulator to be orientated more towards the casual Speccy game-player than the hard-core emulator junkie; with this in mind he's putting a lot of thought into making support material such as instructions and inlay art accessible.

In its current state the emulator offers no support for tape files; it doesn't emulate the Spectrum's border and it only covers the basic 48K and 128K models. A way to go, then, but a promising start.



Spectrum Emulator Without a Name recognises snapshots and displays screen\$ and basic info in the panel to the right of file names. Clicking on 'instructions' brings up inlay text in a separate window; unfortunately SEWN doesn't recognise WoS text instructions, these have to be re-formatted in RTF before being saved into the instructions folder. If you'd like to help Adrian out (he's very keen for others to get involved) you can email him at captain_grey@hotmail.com



NEW MODULES

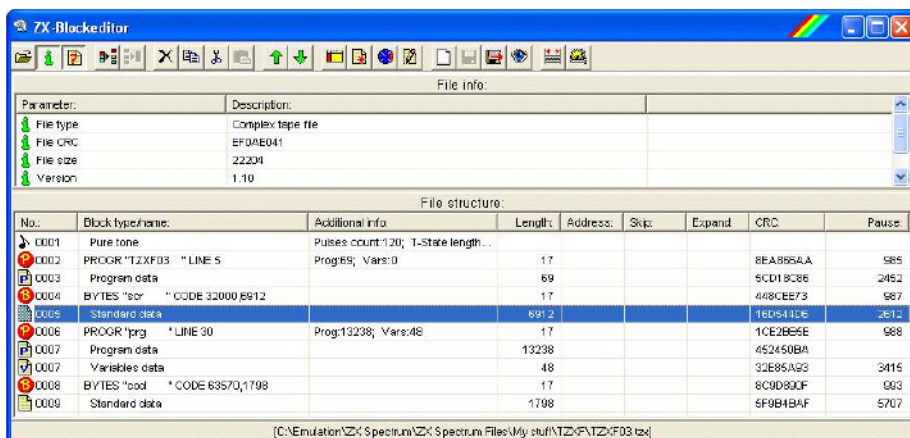
>ZX-Preview and ZX-Blockeditor

Last issue we brought you news of the first of **Claus Jahn's ZX Modules**, ZX-Paintbrush and ZX-Explorer. Collectively the modules are intended as a replacement for Claus' previous project, **ZX Rainbow Second Edition** and the next two have now been released.

ZX-Blockeditor displays a breakdown of the contents of a TZX or TAP file and allows you to move these about to your heart's desire. It's a nice little tool which I tried to use in the creation of **TZXF**, but I kept getting loading errors from the resulting tape files created and ended up going back to good old **Taper**.

ZX-Preview works either on its own or with **ZX-Blockeditor** and displays screen\$ data and other goodies from your selected Spectrum file.

The next module under development is the rather nice looking **ZX-Editor**. You can check up on its progress, as well as grabbing the above at: <http://home.arcor.de/claushahn/spectrum/>



50,000 + Wholesale Brand New, Retro Software Titles

Winning bid: **£3,600**
 Number of bids: **29**
 Ended: **06-Mar-05**

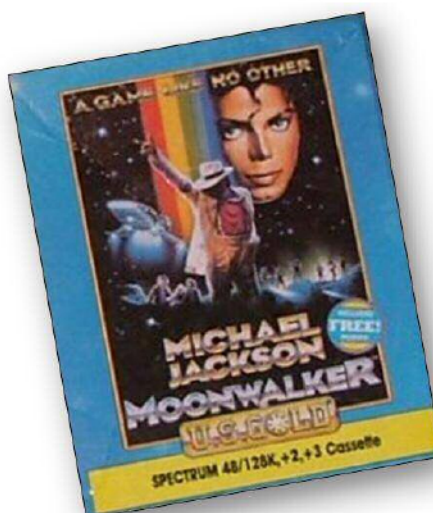
This, apparently, is what 50,000 unsold retro titles looks like, covering the formats Sinclair, Commodore, Amstrad and more. Starting at 99p this auction soared up to over three and a half grand in nine days. Presumably the buyer will break the lot down and start selling off the titles individually; the question is will he make a profit? By our calculations he's paid 7.2p per title so far, so things look hopeful. More details in Retro Gamer 15.



Michael Jackson Moonwalker 1989 Spectrum computer game

Starting bid: **£15**
 Number of bids: **1**
 Ended: **16-Jan-05**

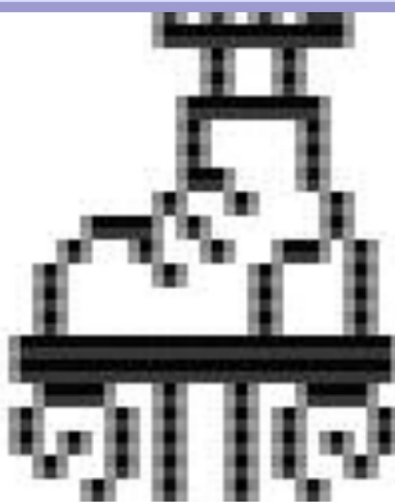
Two months and much press coverage after an ambitious seller first listed this "INCREDIBLY rare Michael Jackson computer game for the Sinclair Spectrum" s/he finally got rid of it. Not at the £199 starting price of the first attempt (see last issue), not at the £140 starting price of the second attempt, not even at the £99 starting price of the third attempt. Nope. In the end it went for £15 to an 'anonymous' buyer. Right.



SPECTRUM 48K MANIC MINER CHEAT unlimited lives

Buy It Now: **99p**
 Ended: **30-Apr-05**

That's right folks: 99p will buy you one whole infinite lives poke, rushed to you by express email delivery from this philanthropist ebayer. Yes really. Just search ebay on 8186755709 to see. Thanks to Steven Holland for the link.





What are you going on about? 

Send your letters, viewpoints, mini articles, etc to zxf@cwoodcock.co.uk, with 'wibble' in the subject line.

BFEEEDBACK FOR ISSUE 9

Comments left at the ZXF website.

TEN [rating] is not enough! Keep it up. Thank you very much and enjoy Christmas! [Czech Republic]

Thanks for this incredible magazine!! [Spain]

This is the first issue I've read and I love it - great work! [Australia]

Thanks for a this great big magazine, It is full of interesting stuff to read [South Africa]

Great work. As a teenager, I didn't pay as much attention to so many topics that you are covering, especially hardware issues. You're giving us a great recap on what's been going on in our non-Spectrum years. [Amman, Jordan]

Another great issue of ZXF with far more pages than ever before. Keep it up that way! [Slovenia]

Keep up the good work! Congratulations! [Rio de Janeiro]

Boy! am I glad I kept my old Spectrums! Great, great, great mag! [Flanders, Belgium]

ZXF is useful and superb. The only thing I would like to see is a bigger font. Thanks. Keep doing the good job! [Argentina]

Thank you for this magazine! [Belarus]

LETTERS TO ZXF

Thanks for the playtx reference and credit in ZXF09 (a wonderful read again - well done), I just wanted to point out that you missed the credit for Tomaz Kac, who wrote the original version of playtx for DOS back in 1997, and the vast bulk of code is still his. It would be great if you could mention it in the next issue.

Thanks again,

Fred

Congratulations with new issue of ZXF! Great layout and great amount of useful information as always.

By the way, I used your magazine as reference to collect information about new hardware such as ZXCF, zxUSB and so. The amount of information I found was much than enough to write an article, it will be published in one of russian Spectrum magazines soon.

Thank you once again for your excellent work.

Kendo Anoubis

Greetings for your latest ZX-F issue. It's quite a lot to read and watch what's happening on Spectrum scene. Hopefully, I have already launched a new PDF-zine called 'ZX Spectrum Files', in Spanish language as I'm from this quite sunny place (well, not always). Well I want to try to do more or less the same here, for those who speak Cervantes accent (this is Don Quixote's year). The site from which you can download ZXSf issues, for free, is:

www.microhobby.com/zxsf/pagina_1.htm

Use better Internet Explorer or Netscape navigator, as it's still in trouble with Mozilla. Nevertheless, a new update is up to come

nearly, fixing this problem.

Keep on going as remarkable as usual with your zine. Simply the best in its genre.

Kind regards,

Ignacio Prini Garcia

I'm writing this letter to say big THANK YOU for another brilliant issue of ZXF. I like ZXF very much because Speccy was my first computer (today I don't own "the real thing", I only emulate it). ZXF is also first "Sinclair only" magazine that is available without problems for me. I live in Poland, Spectrums were very popular in my country. There were many Polish computer mags but they were multiplatform (Atari/Amstrad/Commodore/Spectrum). Titles like Crash, Sinclair User and Your Sinclair weren't available in Poland so I couldn't just buy ZX mag every month :((You were lucky there in England :)

I have one complain about ZXF09 - where is article about year 1986? Will the saga be continued?

And the last thing - emulators. As we all know the PCs are the most popular computers and there are many Spectrum emulators for PC. But there are other computers too and emulators for them. So, maybe an article about Spectrum emulators for Amiga?

Greetings

Piotr Szymanski aka PopoCop

Regarding Retrospective, Matthew Harrodine has not been in touch with ZXF since issue 8 and is not returning emails. Also his website appears to be permanently down. It's a source of considerable concern for me and if anyone is able to put me in touch with Matthew or is able to let me know how he is I would appreciate that greatly.

Hi Colin,

It's Simon N Goodwin, ex Crash, SU, both YSes etc.

I've got around to downloading and reading issues 8 and 9 of ZXF and enjoyed reading them. I was flattered to find myself in the wordsquare and have found 30 words, though I'm not sure if they were all intended - e.g. perhaps ZX was present by chance. Also Graeme Kidd's name seems to have been truncated(d :-).

This mail is a collection of comments, which I hope you will take in the context that I'm very glad ZXF exists, and remember a lot about the Sinclair heyday and therefore am likely to be critical as well as informative and (I hope, still) interesting.

As regards the note about Fuse 0.7.0 on page 20 of ZXF8, I'm puzzled when you say that 'I don't have a system capable of running it' because clearly you have generic X86 hardware and everything you need to run FUSE is freely downloadable in the form of numerous Linux and BSD distributions. The greatest weakness of ZXF is its ignorance of non-Windows systems (other than Spectrums, of course) so I volunteer to set up a Linux system on any machine or removable drive you have spare, if you wish, by arrangement, to put this right, and put some ZX emulators on it for good measure.

My reviews of ZX emulators for Linux Format magazine are at:

<http://simon.mooli.org.uk/LXF/Spectra/Spectra.html>

I might update them but it's not yet a high priority. Back then Fuse was at version 0.3 and an also-ran - I suspect the Windows version you tried was of that vintage.

There are reviews of many Amiga ZX emulators here:

<http://simon.mooli.org.uk/AF/7.html>

Again there's been significant progress since (most notably the port of X128, and ASP and CBSpeccy, both on Aminet) and I may update the pages to note this, but haven't scheduled time to do that yet. I did write a bit about those in other magazine articles after the AF series finished.

I've written quite a few reviews of ZX emulators for Qdos too, most recently in the final issue of Your Sinclair (the final news-stand edition, I should say). You might have spotted me a few times in Retro Gamer; I gave a long talk about Sinclair spinoffs (ZX and QL clones), most of which Tarquin Mills now has on DVD, at ORSAM 2004.

Your readers might like to know that I've put all the articles and many of the graphics from the Sam Supplement disc-zine online:

<http://simon.mooli.org.uk/snarf/SUPPLEMENT/>

All the reviews, program notes, editorials, letters and lists of the files on the 60 disks (freely downloadable as +D/Disciple style 800K disk images elsewhere) have been converted to HTML from the original SAMScratch format, along with scores of SCREEN\$ files now in PNG format linked to the HTML. The conversion was done in Sinclair SuperBASIC running on UQLX (a Unix Qdos emulator) as that made it trivially easy to open the disk images and read the directories and documents therein and convert the contents to hyper-linked HTML. This was done with permission of Dave Tonks, Supplement editor, and a CD with all the contents plus disk images, emulators and tools for various systems is available from me.

Sam Supplement was a thriving user-group of active SAM BASIC programmers and the disks provide a vast resource of sample code

and tips for anyone who has a SAM or one of the SAM emulators and is keen to continue home computing in this exceptionally productive 'Super-Sinclair' environment.

A retro remake of my DkTronics hit Gold Mine is now underway, based on the later SAM version but with options to revert to the 16K (DkTronics) or 48K (SU covertape) version, and optionally new 16 or 24 bit graphics and sound. I'll let you know when there's something to show of this - I'm helping an enthusiast convert the SAM version to VB at the moment.

Incidentally the 30M of 'stock' at Sinclair was not properly explained in the ZXF8 history of 1985. It has since become known (I first heard it after the Amstrad takeover, from an ex-Sinclair employee) that most of that 30M figure was derived from accounting for all the untested product returns (almost all of them 48K Spectrums, often in full working order sent back by catalogue firms who asked no questions) which Sinclair had warehoused pending a retesting process that wasn't even started till after Sinclair sold out - at their full price, delivered from Timex, of £30 each. The 25% return rate that led to Clive's spat with Chris Curry, on production of approaching four million machines, accounts for almost all the 'stock'. There were some QLs and 128s in that pile, but only a few thousand of each. Most of the rest were returned by consumers who couldn't cope with cassette loading. Quite a few were returned after the 12 month warranty expired. Sinclair's policy was to send out a fresh one from current production without question when a machine was sent back by a customer, and pile

up the putative duds till it was worthwhile sifting through them to

ZXF10: 22

find faults and reassemble complete sets - in practice, only after Sinclair sold out and firms like PST bought up the 'stock' from Amstrad.

This explains why so many 'new' Spectrums released to retail came in reverse serial number order - last in, first out. ;-) The collapse of distributors Prism was the fatal blow to Sinclair as it released Spectrum systems to retail at below Sinclair's cost price. Even though production was soon halted there was no point in 'fixing' the 'stock' till the gut of machines Sinclair had supplied for distribution cleared, and Sinclair never really got over that.

Your article about Spectrum disc systems was interesting though not particularly informative; it's a pity you did not mention the Sixword Swift Disk system which was the nicest ZX disc expansion, in various ways, I used in my time as Crash Technical editor. I attach the text of my review, which you're welcome to edit and re-use if you see fit. I've got the hardware in my shed and could dig it out for a photo if you wanted and did not want or could not find the Crash review pics. It didn't work last time I tried it, but I'm not sure what part was playing up. I'd be interested to hear from others who own one.

This article has been read from the Video Genie disk on which I wrote

it with a Sinclair SuperBASIC program (Multidos_bas, in the Quanta library) - I still use the QL to read such disks as 'modern' controllers can't read the FM (single density) format used by the original TRS-80 and Genie WD-1771 disk controller - and transferred to a 3.5" 1.44Mb Qdos floppy to be copied to the hard drive of the Amiga 4000 on which I'm writing this note. Amigas can read Qdos 180-1.44Mb, all Disciple, Plus D, Opus Discovery and +3 floppies as if they were native AmigaOS - or MSDOS - format, with free handlers from Aminet - so they pop up on the desktop as icons, and can be loaded from like any native disk (preserving ZX file attributes like start line and filetype) by any application as soon as they're in a mechanically-suitable drive on any Amiga with the relevant (small, free) filesystem handler installed. XFS handles the most formats with one file, but there are dedicated MGT and QL handlers freely available on Aminet as well. These work with 'Catweasel' Zorro and PCI retro floppy controllers as well as Commodore's standard 'Paula' one.

Incidentally, I fear your 'prediction' of people being able to read MGT and Opus discs with a USB floppy drive in your look forward to 2014 may be stymied by the same ignorance that leads people to believe that Windows is the only

OS ever used by anyone who matters. My understanding is that - for firmware reasons, embedded the other side of the USB - these drives are not capable of reading the 256 byte sectors standard on Opus discs and many earlier micros, and can only read disks with the physical layout of MSDOS - 9 or 18 sectors per track, of 512 bytes each. This is OK for Qdos, ST and later MacOS disks, but could be confounded by the use of a tenth sector on MGT format disks, also an option on Atari, Linux etc etc - and used by Microsoft for some distribution sets.

Once again thanks for ZXF, I look forward to the next whenever you feel like doing it, and hope I can help you fill it with interesting stuff.

Cheers,

Simon N Goodwin

Many thanks for this extremely informative letter Simon - and I take pleasure in reprinting your article on the following pages.

Regarding Linux - well, yes, ZXF is definately the poorer for the absence of any information on Linux emulators. The specific reasons for not having this on my system so far are to do with using NTFS as my filing system. A few poeple - Simon included - have given me a few new ideas to pursue on this, however, so by the next ZXF things might be different...

NEW TO THE SPECTRUM SCENE?

The essential sites you need to visit.

www.worldofspectrum.org

The cornerstone of the community: emulation, discussion, downloads and online gaming.

www.spectaculator.com; www.ramsoft.bbk.org; www.worldofspectrum.org/emulators.html

You'll be needing an emulator to play those games on...

www.the-tipshop.co.uk

More tips, hints and pokes for those games than you can shake a pointy stick at.

www.ysrnry.co.uk; www.crashonline.org.uk; www.sincuser.f9.co.uk

The online editions of all your favourite Spectrum magazines: YS, CRASH & Sinclair User.

<http://raww.org/>

Spectrum news from around the world. Constantly updated!

www.sinclairfaq.com

All your further Spectrum questions answered.



In response to last issue's article on storage solutions (originally printed in *Micro-Mart*), Simon Goodwin has not only sent us his original article for *CRASH* issue 44 (September 1987) describing the Swift Disk system, he's also provided us with some new pictures of his own kit to look at.

The Swift Disk system was developed last year [1986] for a large company which eventually lost interest in the Spectrum. The inventors - a group of 'big computer' designers - decided to press on, and sell the system themselves. This is its first ever review.

The Swift Disk began as an easy-to-use combination of a standard disk interface and a 'press-button' copier like a MULTIFACE. Since then it has grown in power, but the original core remains.

The interface is a black box with connectors for a Kempston joystick, serial printer and up to four standard disk drives. You use your Spectrum or 128 as normal, with the interface connected.

The fun starts when you press the button on the back. Whatever program you were running is suspended and the disk system

says hello. You can then use any of the SWIFT DOS commands. For instance:

SAVE 0;FRED 7

will save the entire contents of memory on disk zero, under the name FRED. Unlike a Multiface file, the data is not compressed, but you can still get 13 48K images, or four 128K ones, on a single disk.

The '7' is the screen border colour to be set when the program is re-loaded. If you type an 'S' after the file name, only the screen is saved. 128 users can choose between its two possible screens. You can save the contents of any memory area similarly.

LOAD fetches programs, screens or code from disk. QUIT lets you re-start the loaded program, with its display intact. '*' resets the computer. ERASE deletes disk files, unless you have used KEEP to protect them against accidental

erasure.

You only need to type the first character of a DOS command. If you miss out parameters - e.g. you just type 'L' - the system will ask you questions to obtain any other information it needs.

ALTER lets you edit program memory. Thus you can use all the POKES published in *CRASH* Playing Tips, without resorting to loading tricks or a MULTIFACE.

FORMAT makes a new disk ready for use. It takes about two minutes to set up a 640K disk. When you format a disk you must specify the maximum number of files it can hold; the default is 32; larger numbers slow things down and gobble up some file-space.

CATALOGUE comes in two variations: the BRIEF form tells you the name of each disk file, the date it was created, the size in 256 character 'sectors', and the file



The Swift disc interface used the same plastic moulding as Interface 1, and it can even be plugged in and used at the same time as Sinclair's microdrives, network and serial port.

But Swift puts the Shugart-format floppy drive connector in the space Sinclair reserved for the net ports, adds a Kempston-compatible autofire joystick port where Interface 1 had the serial port, and moves its own serial connector to the space Sinclair used for microdrive connections, on a similar obscure IDC connector. The vital snapshot 'magic button' was added at the rear end, by the through-port.

type. The FULL listing also tells you the code address, start or record size of each file.

MOVE and BACKUP transfer files, or entire disk contents including empty spaces, between disks. This is a slow process, involving much disk-swapping, if you've only got one drive: data is copied in 4K chunks to avoid disturbing the computer's main memory. It's often quicker to copy files by loading and saving them individually.

DISK BASIC

Version one was ace for gamers, but of limited use to programmers and 'serious' users. Version 2 added commands available from BASIC, as well as the DOS commands called up by the magic button.

The disk BASIC syntax is rather erratically recorded in both the manuals I received, but it's easy enough to work out with a little experimentation. Most disk commands are distinguished by a per cent sign before the disk or channel number. This is simpler than the microdrive's ' *"m";1;" ' though OPEN and CLOSE look odd with extra per cent and hash signs after the 'automatic' hash that comes with the keyword.

You can LOAD, SAVE and MERGE programs, screens, code and arrays, just as with cassette but much faster. LOAD reads about 7K every second. If you LOAD a memory file created by SWIFT DOS

SWIFT DOS COMMANDS

ALTER <address> <value>	Apply POKes (as for Multiface)
BACKUP <drive> <drive>	Copies all files between 2 disks
CATALOGUE <drive> /B/F	List disk file details
DATE <Day> <Month> <Year>	Sets the default date
ERASE <name>	Erases a file from the disk
FORMAT <name> <files>	Formats disk for <files> files
KEEP <filename>	Protects a file from ERASE
LOAD <filename> /Addr/S	Loads a memory image file
MOVE <name> <name>	Copies a disk file
SAVE <name> /S/CODE/DATA	Save image, screen or data file
UNKEEP <name>	Removes 'KEEP' protection
*	Resets the computer
QUIT	Returns from DOS to main program

All commands can be abbreviated to their first letter.

<name> = (optional drive No. ;) 1-10 character filename.

it runs automatically.

Unlike Amstrad's Plus Three, the Swift Disk can OPEN files. You can use up to four files on one disk at any time; these can be normal text files, processed with PRINT, INPUT and INKEY\$, or random-access files with fixed length records, passed back and forth with IN and OUT keywords. The BASIC interpreter can only process files at about 0.5K per second.

A file can be opened at the start or the end, but you can't 'rewind' or move about in a text file, and there's no way to discard data from the end without creating a new file. The %EOF function lets you detect the end of a file, but you can't trap other errors without

a toolkit.

You may run into problems if you CLEAR low addresses when using Swift BASIC. There's no check on the amount of free memory when you type in a program line, so you may get 'stuck' editing a line if the system can't find enough room to convert it into tokens.

Swift include a FORMAT command for their printer port, which lets you LPRINT and LLIST at any speed to any width of serial printer.

MICRODRIVE EMULATION

Programmers and serious users will be especially impressed by the microdrive emulator - a new



SWIFT BASIC COMMANDS

```
CAT %( stream,)drive (;B/F)
CLOSE % stream
ERASE %drive;"filename"
FORMAT %drive;"diskname" (,maxfilecount)
FORMAT % stream;"T"/"B",baudrate,linelength
IN % stream,variable,recordnum
INKEY$ stream
INPUT stream;<variables>
LOAD %drive;"filename" (,LINE/DATA/CODE/SCREEN$)
MERGE %drive;"filename"
OPEN % stream;drive;"filename","R"/"W"/"A", "T"/"R",len
OUT % stream,variable,recordnum
PRINT stream;<values>
SAVE %(drive);"filename" (,LINE/DATA/CODE/SCREEN$)
```

Items in brackets are optional. "/" separates alternatives.

feature of version 3. This lets you run commercial microdrive programs on disk without changes. You don't need Interface 1 or 'real' microdrives, although an Interface 1 manual is useful if you want to develop new microdrive programs - Swift don't document the Sinclair drive commands.

The microdrive emulator is easy to use. It takes about four seconds to load a file called EMUL, which stores a close imitation of Sinclair's microdrive system in the disk interface RAM. Swift DOS and Swift BASIC are disabled and replaced with microdrive commands just like those provided by Interface 1.

The main difference - besides a massive increase in reliability - is

that FORMAT grabs an area of disk space and uses it to imitate a microdrive, rather than set up a real cartridge. The disk area appears as one 128K file from Swift DOS, but when the emulator is loaded CAT shows you up to 50 files 'inside' that area. Four 'pseudo-cartridges' fit on one disk, and you can use them all at once if you like.

The competing Disciple disk system makes a brave attempt at microdrive emulation, by recognising microdrive BASIC syntax and the 'hook codes' - microdrive system calls provided by Sinclair. Unfortunately 'real' machine-code programs like Tasword 3 tend to leap directly into interface routines. Only the Swift Disk can cope with

this, by mimicking the Interface 1 code right up to the point at which data is about to be read or written.

I tried out a pre-release version of EMUL with all the microdrive programs I could muster, and it worked remarkably well. I had no trouble creating disk versions of the programs by loading the emulator and following the microdrive transfer instructions.

All the programs loaded and saved disk data files without trouble. Besides Tasword I tried Cheetah's Sound Sampler, Powerprint 2, Beta BASIC, Hisoft Pascal 1.6M, Oasis's Laser Genius, MIRA Pascal (a new compiler, reviewed next month), Discovery/Gremlin's Code Machine 3.1 and its parent, Pictureque's EDITAS 2.1. CAT options, multi-file assembly and other tricky operations worked fine.

The only things that went wrong were file ERASE operations from Tasword and the Sound Sampler. Both programs ignored the command. Swift say they've since moved a misplaced instruction in the emulator, and ERASE now works even if the microdrive ROM is called directly.

The microdrive emulator is a powerful incentive to buy a Swift disk, if you already use microdrive software - or would like to but can't stand the cartridges.

At the moment EMUL runs at about the same speed as a real



ZXF10: 26

microdrive, although CAT and ERASE are noticeably faster. Swift are still fine-tuning their code, and hope to double the speed of many file operations by 'interleaving' data inside the pseudo-cartridge.

HARDWARE

The Swift Disk interface uses the same black plastic box as Sinclair's Interface 1, with the words 'Sinclair' and 'ZX Interface 1' filed off and covered with plastic stickers. The interface fits the original Sinclair Spectrum models well, but it's a very tight fit on the Amstrad Plus Two.

A Kempston joystick socket skulks at the back of the box, where the Interface 1 serial plug used to fit. Some of the original holes in the case have been cut out to make room for different connectors. The disk drive socket sticks out where Interface 1's network sockets used to live.

The disk connector is the same as is used by the BBC Micro and QL, among other machines, so there's no shortage of alternative drives. You can plug in up to four 'modern' 3.5 inch or 5.25 inch drives; the software automatically adjusts to different drive formats.

Some old drives can't switch tracks fast enough - Swift only allow drives six thousandths of a second to step from one track to the next. The Disciple interface copes with slower drives, but you must load a 'configuration' file whenever you start to use it. The Disciple also limits you to two drives.

Alongside the Swift disk connector is an edge connector for other Spectrum peripherals. You can plug in anything that does not use a 'magic button' to interrupt the computer. Swift hope to remove even this restriction.

After all this standardisation the printer port almost comes as a relief to Spectrum fans, used to the way Sinclair defied convention. The port uses the ultimate obscure socket - a modified Microdrive edge-connector!

Sixword didn't send an adapter (#14.95), despite requests, so I can't say how well it works. They say it's much like the port on the Interface 1 - in other words, O.K. for driving an RS-232 printer, but a bitch for anything else. ZX and Alphacom printers still work.

You can plug a genuine Sinclair Interface 1 into the back of the Swift unit, and run microdrives and disks at the same time. You can't use real microdrives while you're using the microdrive emulator, for obvious reasons, but Swift supply a program to move the contents of a tape into a 'pseudo-microdrive' automatically.

TECHTALK

The SWIFT contains 8K RAM and 16K ROM. The ROM is split into 4K sections, with space for up to 32K. The entire system, including the disk and printer ports, is invisibly hidden under the Spectrum's 16K ROM unless the DOS is in use. This makes it hard for protected software to detect and disable the interface; I have yet to find a program that won't SAVE to disk properly.

The circuit-board is crammed into the Interface 1 box with no room to spare. It is well-engineered but crying out for some more space. Swift intend to use their own box eventually, saving space and money by re-designing the logic circuit to use custom PLA chips.

COMPETITION

The Swift disk is very competitively priced, mainly because it is only available direct from the manufacturers. The interface costs £75 on its own, or £149 with a separate 640K 3.5 inch drive and power-supply. That's a bargain price for the drive - you'd be hard put to find a similar unit anywhere for under £100.

The Swift unit competes with the Disciple interface, which Franco Frey reviewed here in March. The Disciple costs £90 without a drive. Both load at similar speeds, but the

Swift SAVE is about twice as fast as Disciple's.

The Disciple has the edge in terms of hardware - it packs 780K, rather than 640K onto a disk, although some of that space is needed for its configuration file. It has Sinclair standard joystick and network ports, and a flexible driver for parallel printers. The Swift is easier to use, and significantly more compatible with existing programs.

Amstrad evidently think a Spectrum with a disk drive is worth £250, or at least £200 - our predicted price for the Plus Three this Christmas. If you've already got a Spectrum, and want disks, an add-on interface is cheaper and - at least for the time being - more flexible than Amstrad's Plus Three.

The Plus Three has less than a third of the speed and capacity of the Swift or Disciple. The Amstrad won't work with microdrive software, and lacks BASIC file-handling commands. Most damning of all, there's no easy way to transfer protected game tapes onto Plus Three disks. Spectrum-specific software may be published in that format, but I'd be amazed to see 'hit' programs released on three inch disk alone, with no tape version for other users.

The Plus Three benefits from serial and parallel output ports, and comes all in one box. In theory it is compatible with the old CP/M business operating system, but 80-column display hardware will be needed before most programs will work. Frankly, I don't think Spectrum users need or want CP/M.

VERDICT

The Swift disk is well-engineered and competitively priced. It's fast, friendly and uniquely compatible with existing Spectrum software.

The question is, can Spectrum users afford a £150 upgrade? It's worth it, but only if the restrictions of cassette are hampering your use of the computer. You DO get value for money - a disk drive totally transforms your system.

PRICE LIST (prices checked April 2005)**New:**

PC-PSU with supply for 2 Floppies and MB02	36,00 €
MB02-Printerlead	13,00 €
Proface AT Extern (Interface for connecting PC-Keyboards to Spectrum)	69,00 € KS
Proface AT Intern (internal interface)	62,00 € KS
Melodik AY-Soundbox (unboxed)	24,00 € KS
+2 Cassette recorder	36,00 €
Floppy Disc drive (1,86 with MB02, 720k with Opus, 780k with +D) Please specify	24,00 €
PSU for +2A/B and +3 or PSUI for +2 (also 48k and 128k) Please specify	29,00 €
FDD lead for 2 drives	4,00 €
Multiface 128 (works also on 48k Spectrums)	26,00 €
Dust Cover 48k+/128k	8,00 €
Plus 3 Tapelead	9,90 €
Normal Tapelead	3,00 €
Spectrum +2 Lightpen	36,00 €
Spectrum +3 Lightpen	27,00 €
Phaser Gun with Software (Tape or +3)	19,00 €
SCART-Monitor cable (choose for 128k/+2 or +2A/+3)	25,00 €
VGA-BOX (connect Spectrum 128/+2 to VGA monitor)	49,00 €
VGA-BOX Multi purpose (Connect any PC monitor to Spectrum 128/+2)	79,00 €
+3 drive belt	2,00 €
Silver paper for ZX Printer	5,00 €
Keyboard membrane 48k	11,00 €
Keyboard membrane Spectrum +/128k, new quality, not aging	21,00 €
Spectrum keyword stickers	8,00 €

Used:

Sinclair ZX Spectrum 128k, complete with all cables	129,00 €
Sinclair ZX Spectrum +2, complete with all cables	79,00 €
Sinclair ZX Spectrum +2A, complete with all cables	69,00 €
Sinclair ZX Spectrum +3, built in 3" drive, complete with all cables	99,00 €
Sinclair Spectrum 48k (Gummy), complete with all cables	64,00 €
Sinclair Spectrum 48k +, complete with all cables	64,00 €
+3 Drive (tested)	29,00 €
Interface I	69,00 €
Microdrive	25,00 €
Wafadrive	39,00 €
Opus Discovery Diskinterface with 1 x 720k Drive	119,00 €
Joystick interface	1-Port 3,00 € 2-Port 11,00 €
Joystick (many different)	2,50 €
Sinclair SJS-Joystick (+2/+3)	6,00 €

Consumables:

Microdrive Cartridges (ex-software)	3,50 €
Wafadrive Cartridges	16K= 7,00 €, 32K= 7,50 €

Also we have a lot of Software offers and books. Please contact us and we will send you our pricelist.

Products marked KS are sold in the name of Kompakt Servis. We organise the business.

Prices excluding postage. Delivery as long as stock lasts.

Orders to: SINTECH, Gastäckerstr. 23, 70794 Filderstadt, Germany

Tel./Fax: 0049 711 775033 email: sintech@online.de <http://www.sintech-shop.de>

SPECTRUM +3 SOFTWARE AND SPARES



HARDWARE:

3 inch 180K disc drive for +3. Reconditioned with 3 months warranty £10 each. These drives can be supplied with cream coloured facias in place of the black facias if wanted -- just ask.

Belts for the 3 inch drive £1 each. New. Loads available. (Just send a S.A.E. with order to cover postage -- correct for up to 20 belts).

Monitor lead to convert +3, +2 and +2A to use an Amstrad CTM644 colour monitor. £4 each.

3 INCH DISCS:

3 inch Blank discs: Second-hand good quality Amsoft or Maxell only supplied. All have been reformatted, verified and relabelled. 80 pence each or £7-50 for ten. Larger quantities available 100 for £65, 1000 for £450.

Sometimes available new 3 inch discs at £1 each, please ask.

JOHN R P KING

**26, GUYSFIELD DRIVE, SOUTH HORNCHURCH, RAINHAM, ESSEX.
RMI3 7AJ**

TEL: 01708 630477 *john@pcwking.freemove.co.uk*

www.pcwking.freemove.co.uk

USE YOUR VOTE WISELY ON 5 MAY

Dear Valued Constituent,

You might find it surprising that a 1980s home computer is standing for election as a member of parliament in your area. After all, computers have tried and failed for many years to pass tests of 'human intelligence'. But what exactly does that phrase mean?

Apparently it's supposed to have something to do with the way in which decisions and policies are made. 'Intelligent' decisions are:

- based on evidence
- made for the benefit of all ('all' meaning all, not 'us' or 'me')

As opposed to:

- based on how we think reality *should* be, dammit
- based on how we're feeling at the time (generally bored, irritated, angry or scared shitless)

The mistake that voters are making, year after year, is to assume that *polititians* are capable of human intelligence. In fact, most politicians would not even pass the Turing test. *Computers*, however, are just as capable of bad decision making as politicians are - and they don't have salaries and expense accounts. In the case of the ZX Spectrum you don't even need an IT support department.

On 5 May, make sure your vote counts and elect the candidate whose mistakes will at least produce a recognisable error message. Using the award winning 'Member of Parliament' software by Sinclair your Spectrum will make decisions on your behalf based on:

- FOR ... NEXT looping
- available memory
- the activities of the kettle/vacuum cleaner next door

Additional software modules will include *Daley Thompson's Olympic Bid*, *MacMan's Magic Treasurer*, *Cookie* (Jamie Oliver 37p budget re-release) and the ever popular *Horace and the Weapons of Mass Destruction*.

Say farewell to dashed hopes and make colour clash a feature of *Daily Mail* editorials. **Vote Spectrum on 05/05/05.**

P.S. Please don't vote Commodore. That would be just silly.



Vote Spectrum





HIGGLEDY PIGGLEDY

Author: **Jonathan Cauldwell**; published by **Cronosoft** Price: **£2.99** Reviewer: **Colin Woodcock/James Zeun**
 Website: **www.cronosoft.co.uk**

Another year; another **Cronosoft** release; another game by **Jonathan Cauldwell**. The first that the denizens of **WoS Forums** knew of this upcoming release was Cronosoft's **Simon Ulyatt** asking for entries in an inlay designing competition. A very strange thread followed, but Simon got his entries nonetheless and the cover for **Higgledy Piggledy** is one of the best Cronosoft inlays so far.

The game? It's to do with Interplanetary Pig Farmer Eadwig Addlethorpe. Of course it is. Eadwig's pigs - through some sort of odd evolutionary quirk - can fly; this, of course, is not normal porcine behaviour and frankly it makes things rather awkward for Eadwig when it comes to rounding them up for slaughter. He's installed a number of teleporters - like you do - in order to send them off to the pig processing plant, but can he direct those pigs successfully into the teleporter? He can not. And that, of course, is where you come in.

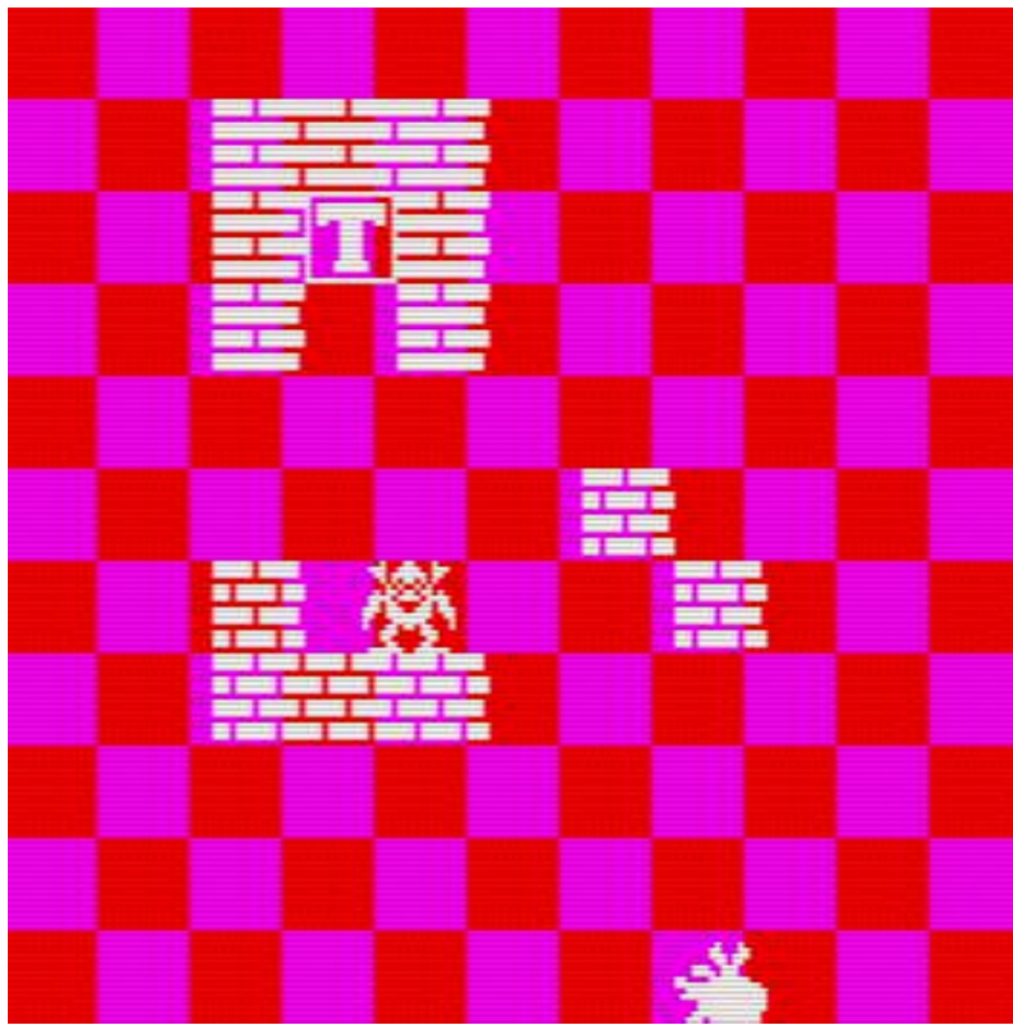
If it was down to me a rifle and a pointer dog would do the trick quite nicely; instead we are given a fiendishly addictive puzzle game where you both move around the playing area and attempt to influence the direction of the pigs by picking up and moving blocks one at a time. The pigs, you see, move along in straight lines until they hit a block, at which point they take a right-angled turn. It's a bit like a combination of Lemmings and that game where you control the light with the mirrors. But more frustrating. Oh yes - and better.

In my opinion Jonathan Cauldwell has already made a permanent name for himself in Spectrum software, simply due to the fact

that it's the twenty-first century and he's the only guy around banging out Spectrum games at the frequency and high quality that he is. All of his games to date have been highly competent, attractive and fun-to-play pieces of work but, with the possible exception of Fun Park, I can't say in all honesty that anything he's done so far stands out as a Spectrum classic in its own right. But Higgledy Piggledy does.

There are a number of simple, but very effective ways in which he achieves this - we're not talking multicolour effects or border graphics here, just striking visuals and simple gameplay. The backgrounds against which Eadwig and pigs move in particular are cleverly

managed patchworks which look like they shouldn't be possible on a Spectrum. Of course you quickly realise that the effect has more to do with good colour placement than it does any tomfoolery with the TV beam, but by then the illusion has done its work and what you're left with is a 'look' that will now always be associated with this specific game. Higgledy Piggledy has that ultra-special quality: it doesn't look like something you've seen before. Add in a wacky series of title screen animations (pigs flying; sausages sizzling; you know the sort of thing) and you have something completely unique. I've applauded Jonathan's work before, but this gets an ovation.



JAMES ZEUN

Higgledy Piggledy is a challenging game and certainly worth getting. When I first began playing, I was a little confused as to how I directed my pigs to the teleporter. It seemed at the time to be an impossible task, yet I still managed to do it. I was disappointed with the lack of music on the title screen - a game like this deserves a theme tune. In-game sound effects are pretty basic, even for the Spectrum. However these are only minor things, and when compared to the games polished design can be dismissed. I personally hope this isn't the last we see of Eadwig Addlethorpe. There are certainly many directions the creator could take this character, without restricting it to this one game design. Like Dizzy, I believe Eadwig could be the Spectrum's leading character for 2005. Which I don't believe would be a bad thing. It's overdue that Spectrum users had a computer icon to be proud of. Dizzy did this well for some time, but with no new official Dizzy games being released for the Spectrum. I believe Eadwig could do a good job in fulfilling this role.



ZX COLUMNS

Author: **Santiago Romero** Published by **Compiler Software** Price: **Free**
 Reviewer: **C Woodcock** Website: www.speccy.org/compiler/index_en.php

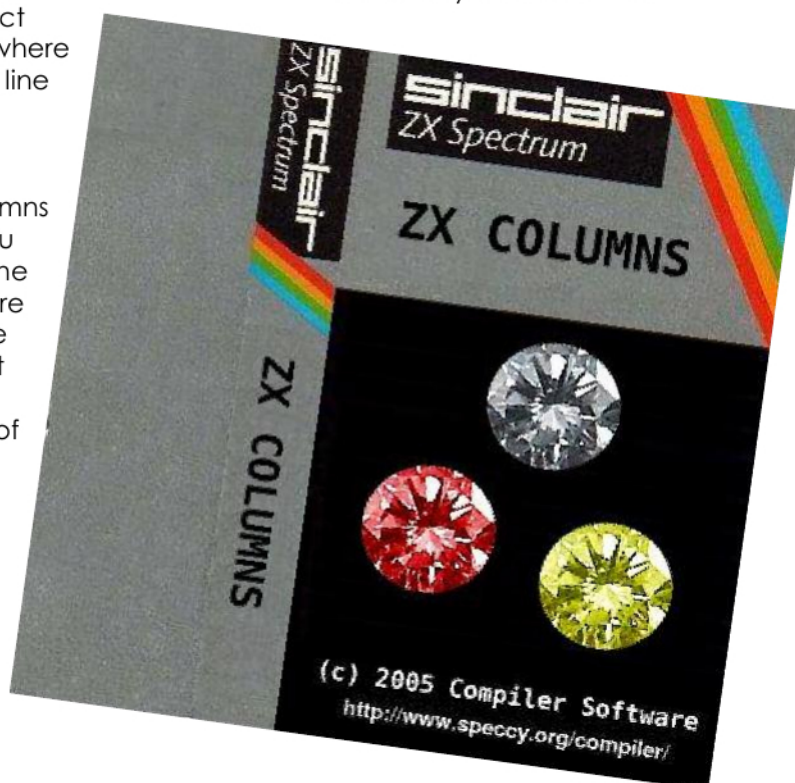
ZX Columns is actually one of three new games available for download from the Compiler Software website. And they're all free. There's **Another Brick On The Wall 2**, a remake by **Miguel A. García Prada** of the game presented to 2004 BASIC Contest at Bytemaniacs (winner of its category) - a sideways variant on Arkanoid/Batty, etc, and reasonably fun, but very BASIC in its look and feel (presumably it's been compiled). And there's **ZX Poker** by **Santiago Romero** which pretty much does exactly what you might imagine it does, although I don't know how to play poker so we'll just have to trust it (we'll have to arrange for Sir Clive to give it a go).

But **ZX Columns** is my favourite of the bunch by far, also programmed by Santiago Romero and with graphics by **Davit Masía**. It's basically a Tetris/Connect Four hybrid where the aim is to line up coloured gems that descend in vertical columns of three. You can rotate the colours before you drop the columns, but only when three gems of the same colour are lined up (either horizontally, vertically or diagonally) will they disappear. Apparently



this was a classic for the SEGA Master System that's since been remade for a number of more recent platforms. And now its the Spectrum's turn.

I must admit I enjoyed **ZX Columns** quite a lot more than I expected to; I was horrified to discover just how much time had elapsed playing it on only my first go [which means it's probably too easy - Ed]. It's a straightforward game but it's also a very addictive one.





DOCTUM

Author: **Carlos Gandarillas, Antonio Ballesteros** Price: **Free** Reviewer: **James Zeun**
 Download: www.worldofspectrum.org

When I was first offered to review this game, I was slightly suspicious. Not because it was an adventure game, which requires skill. Something I lack when it comes to these games. But because it was all in Spanish. Erm, I don't speak Spanish 'ED

From the first look of the menu, I was intrigued. I half expected this game to be about barbarians or at least something along the lines of Golden Axe. What with the

realising I could not only kick things, but if I pressed down I could press the action key and fire my gun. (Poor Dizzy, he could have use one of these??)

So from the onset it looks like Doctum is an adventure game, similar to say "Tomb Raider". You run around collecting Blue gems and if you're in a serious pickle you can also find the odd heart to give you another life. While I wasn't able to get very far, due

you haven't. Which if like me you discover after reaching three screens past the beginning. It can re-kindle primordial rages not seen since the days of the cave man and pointy sticks.

If you put the object detection to one side, I think Doctum is a pretty good game. I think it stands up well against other published works. I'd certainly like to see it put on to tape. It would compliment anyone's game collection.

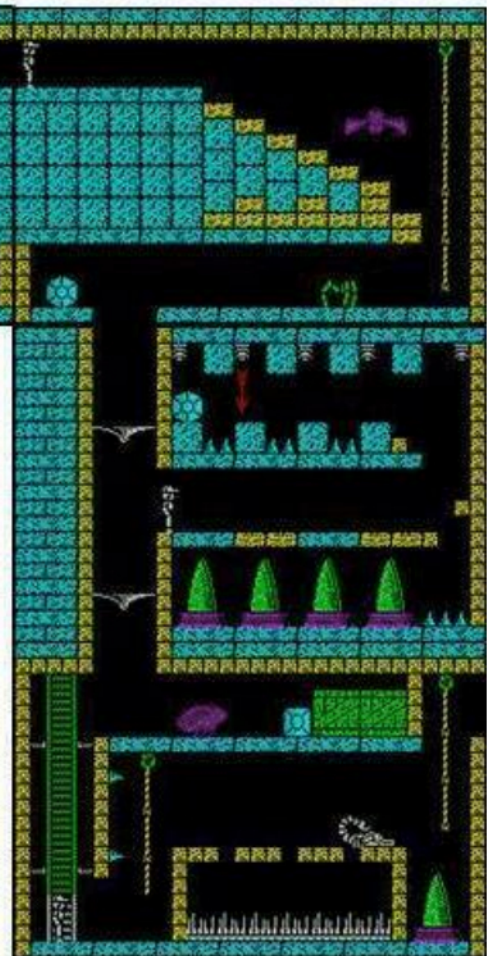


sword and Axe incorporated into the title. It's also worth mentioning that the menu screen is accompanied by a pretty catchy tune. Which I'm sure, I recognise as a song by Wham.

You start in a room that wouldn't look out of place in a Dizzy game, with a strange little rat running around on the level below you. Now at first I didn't know exactly what was going on, so I died on several occasions. This was before

to my lacking in the adventure skill dept. I still found Doctum to be very enjoyable, if not a little frustrating. I'd say 60% of what's on the screen is there to kill you in some hideous or otherwise gruesome way. Spikes, dogs, rats and flying arrows are amongst the arsenal of obstructions you will encounter when trying to get your grubby hands on those precious blue gems.

So what about the bad bits? Well when calculating a jump, it became a tad annoying when an invisible ceiling would suddenly stop me from clearing a spike in the floor. Sometimes when you are standing beneath a lantern and you think you have cleared it just enough to jump, in actual fact



Map:
www.iespana.es/carlogical

VEGA SOLARIS

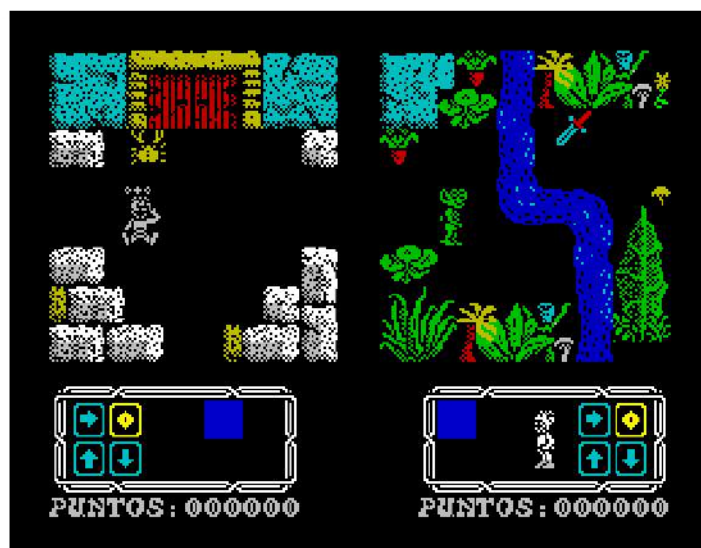
Author: **Fernando Saenz Perez, Carlos Garcia Cordero** Price: **Free** Reviewer: **Colin Woodcock**
 Website: www.speccy.org/trastero/2005/070305/070305.htm

Benefit of the doubt time here. Apparently **Vega Solaris** is a previously unreleased Spanish title from Dinamic which was scheduled for release originally in 1989. It once was lost but now it's found. Although in fact there's been a Vega Solaris up on WoS for some time now, one which looks almost identical to this new find but which was released in 1987. Admittedly the WoS version is just a snapshot file and the new 'find' is a proper TZX, complete with a rather snazzy

loading screen that features nothing less than a miniature Space Invaders game you can play whilst the game's loading (although I can't for the life of me work out how to fire). The WoS title quite clearly states in the main menu that its release date is 1987; the new version quite clearly states 1989. So it's a little bit of a mystery, and the blurb on the page from which you can download the game (see above) doesn't really give all that much information

about the game (particularly once it's been run through the Google translator) other than that someone is jolly chuffed with themselves that they've found it.

It's undisputable, however, that this is graphically a very nice game to look at (do I sense a hint of Sabre Wulf in some screens?). It's worth checking out for this alone. The plot's still a bit of mystery at present, but I'm sure this too will come to be found eventually.





This is loooong overdue, I'm sure you'll agree. What with all these new Spectrum games being released over the last few years our pointy sticks have been just crying out for a new bunch of hints, tips and pokes to be shaken at. So get... erm... shaking...

Flash Beer

Here's some **Tipshop** pokes for the Boulderdash clone by Weird Science Software. Provided by Martin Ball

Part 1

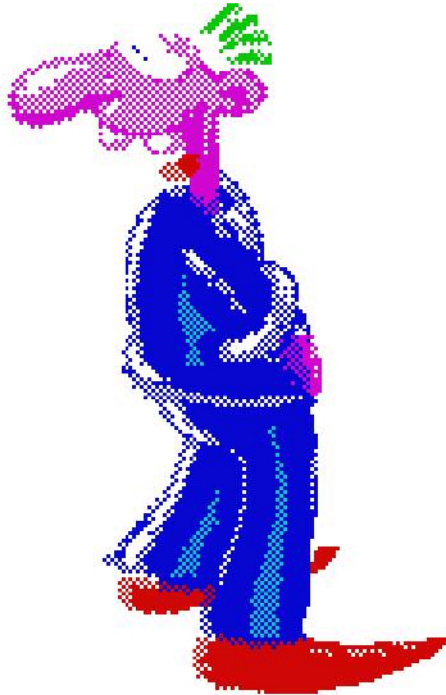
Infinite Lives: 32860,0
Immunity: 35201,201

Part 2

Infinite Lives: 32860,0
Immunity: 35310,201

Part 3

No of Lives: 49591,x
Immunity: 35516,201



WILLY POKING

Finding Dr Andrew Broad's Miner Willy games just a tad on the difficult side? No? You sir are not human. Luckily for us Dr Broad does at least appear to be in possession of some humanity, for he's included an infinite lives poke for his games.

Manic Miner: Neighbours and **Ma Jollie** both use POKE 35136,0; **Party Willy**, on the other hand, uses POKE 35899,0

CAULDWELL CORNER

Jonathan Cauldwell himself has sent us in the following:

Rough Justice

To skip a difficult screen pause the game, then hold down the SYMBOL SHIFT key and press 5.

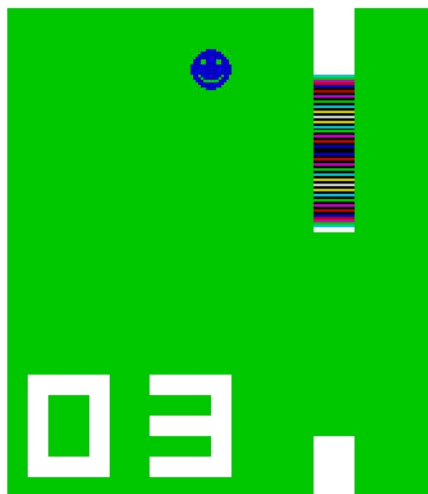
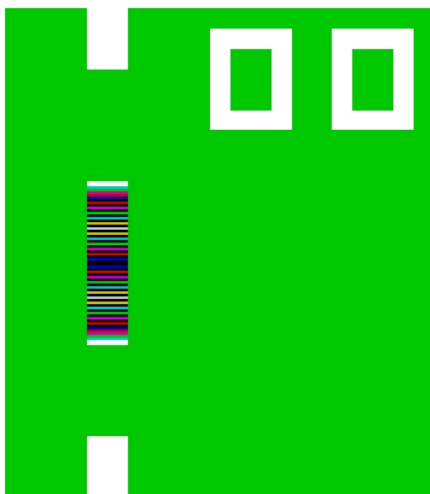
Egghead 3

To teleport around the underground complex hold down SYMBOL SHIFT and press X. Where you end up depends which room you teleported from, but most of the time you will be taken straight to the room containing Egg-head's Spectrum games. Collect the disc, then press SYMB SHIFT and X again, and you will be teleported back to the start. This makes the game far easier to complete.

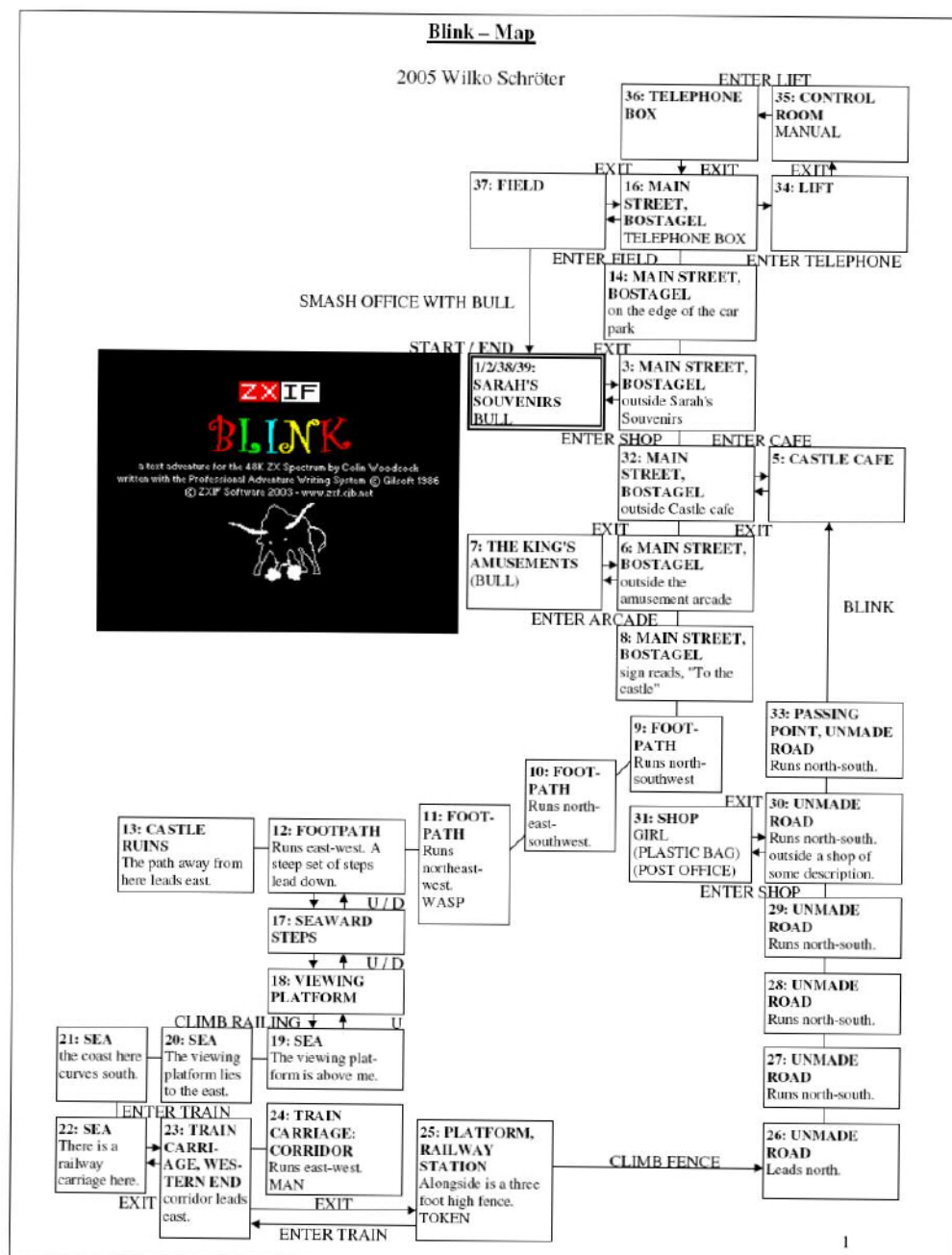
Higgledy Piggledy

For invulnerability enter "OINK" as your name for the high score table. (Actually, entering "ZXF" has the same effect!) There's also a hidden game but I'm saying no more!

TV-GAME



Blown away by TV-GAME's amazing border graphics? Hidden away in the game is code that pushes the barriers back even further: press **SYMB SHIFT + CAPS SHIFT + V** at the main menu and you too can get amazing extra multi-colour bats just like those shown above.



Walkthrough - by Wibble and Blim for CASA

Note that this is a brief solution to this very well-written game. There are many objects which can be examined and some of the descriptions are a real joy.

Inventory, x epipen, x doll, x bull, x post office, get post office, look, leave (you're asked to find the post office).

North, enter car park, x daughter, x wife, x car, leave, north, enter telephone box ("the door won't open" - though, if you wait around, someone will appear and actually enter it - you cannot for the moment), enter field, leave.

South x 3, enter cafe, x menu ("unhealthy"), leave, south, enter arcade (Robby hands you the bull and disappears), x bull ("China. Made in China."), leave.

South x 2, southwest x 2, x wasp, touch wasp, use epipen, west x 2, x ruins, east, down x 2, x couple, climb over railing, west x 2, south, enter carriage, x rag, east, east ("A man blocks the corridor."), enter cabin (you can't), blink (the scenery changes), west, leave carriage.

You meet Bart again (note the reference to manual 214 and the procedure described on page 392), x token, eat token, x token, climb fence, north x 4, x girl (hmm, something very strange is happening), give doll to girl (and receive the bag in return), x bag, get post office out of bag.

Leave (the girl now follows you), north, blink at girl, sit down, blink (you reappear, alongside the little girl, in the village cafe), stand up, leave, north x 3, enter telephone box, leave (and you find yourself in the control room).

X man, get manual 214, read page 392 (note the reference to buttons 2 and 98), say to girl "press button", point at button 98, press button 2.

All becomes clear and you are given another task. Enter lift, leave, enter field, smash bull with post office (and reach the lengthy ending screens).

Displayed on the Classic Adventures Solution Archive: <http://solutionarchive.com/>



THE FOREST STOP

The Forest Stop is a 128K adventure game I wrote in the late 80s using PAW. Which never got published. When I set up my first Speccy website (see p54) a page of it was dedicated to TFS and a snapshot available to download. One problem I had, however, was that I couldn't recall its solution. I asked visitors to have a go at finding out, but no submissions came...

More recently Douglas Harter (see p38) set up a new contest for me in monthly IF magazine Adventure Probe and the solution has been worked on by noneother than the editor of this publication, Barbara Gibbs. Barbara has produced a stunning piece of work, which stirred memories aplenty as I followed it. Unfortunately she also seems to have uncovered a bug which messes about with the ending, so I've got a little compensatory coding to do this summer before I put the game back on my website. Oh well...

In the meantime a big thankyou to Barbara - her almost-complete solution is below - who'll be receiving a signed copy of BLINK for her troubles.

X ME (personal details of your character - note occupation), I (an ID card, a slip of notepaper, a car key), READ NOTEPAPER (a list of questions to ask the hotel guests and staff), NE (reception), RING BELL (to attraction receptionist's attention), SHOW ID CARD (now have large brass key to room 12), U (first floor landing), SW (need brass key). Now in your hotel room, no luggage but see a letter. TAKE LETTER, READ LETTER, DROP ALL, TAKE BRASS KEY, N, SAY PORTER "WHERE LUGGAGE", D (hallway), NE, RING BELL, SAY RECEPTIONIST "WHERE LUGGAGE", RING BELL, SAY RECEPTIONIST "WHEN DINNER" (told eight o'clock), S, X CLOCK.

N, E, N (lounge), TURN ON TV (news report about sightings of UFOs in the area), S, W, OPEN DOORS, N, N, E (shed), TAKE ROPE. When the gardener appears X GARDENER (note what he is carrying). He wanders around three locations, here, by the gate, and the patio. When he drops the calculator and small key, pick them up. Return to the hallway. U, N (into room 14 - see a lady), SAY LADY "I AM A JOURNALIST", SAY LADY "DID UFOS LAND", SAY LADY "HOW MANY WERE THERE", SAY LADY "WHAT DID THEY LOOK LIKE", S.

When the business man appears GIVE CALCULATOR TO BUSINESS MAN (he gives you a tenner). When the middle-aged man appears SAY MAN "DID UFOS LAND" (he gives you a torn map), SAY MAN "HOW MANY WERE THERE", SAY MAN "WHAT DID THEY LOOK LIKE". Return to the hallway, X CLOCK (should be just after eight o'clock and everyone should be at dinner).

N (dining room), SIT DOWN, if necesasary WAIT (until waiter appears and starts babbling about UFOs), HIT WAITER (he calms down and gives you a crucifix to give to the barmaid/bargirl), WAIT (until he brings your soup), EAT SOUP, GET U, E, N (lounge -

bargirl usually here), GIVE CRUCIFIX TO BARGIRL (she takes you to the beer room, but you are discovered by the barman), KISS BARGIRL (barman is satisfied and leaves, the bargirl gives you her diary of events and suggests you look for the teleport, maybe Jim the gardener can help). Now back in bar. LOOK (until barman appears), BUY BEER.

N (lounge), TURN TV OFF, READ DIARY (note details), S, W, S, U, N (room 14), SEARCH ROOM (find an album of photographs), X PHOTOS, S, D, N, N, N, E (garden shed). When the gardener appears GIVE TENNER TO GARDENER, SAY GARDENER "WHERE IS TELEPORT" (he says it is in the attic), GIVE PHOTOS TO GARDENER, TAKE UNLIT TORCH FROM GARDENER, TAKE ROPE.

Go to patio if not already there. X WALL (covered in ivy), U, U, W (outside room 23), SMASH WINDOW (now in room 23 - see a rubber-suited body), X BODY, SEARCH BODY (now have a slip of paper and a laser weapon), READ SLIP PAPER (ticked staff are the ones taken over by the aliens), X LASER, Should now hear footsteps. HIDE UNDER BED, WAIT, WAIT (porter goes into the bathroom), S (to exit the room), X CEILING (see a trapdoor), OPEN TRAPDOOR (too high).

D, SW, DROP DIARY, GO TO BED, I (should have brass key, rope, unlit torch, laser weapon, small key, torn map), N, D, (hallway), X CLOCK (just after 10 o'clock), N, UNLOCK DOORS, OPEN DOORS, N, CLOSE DOORS, N (by gate), OPEN GATE, N (road), READ TORN MAP, DROP TORN MAP, N (forest), N, N, N, N, N, N, N, N, N, E, E, E, E, E, E (clearing - see house to the north), N, N (by door), OPEN DOOR, N (challenged by another rubber-suited figure), FIRE LASER (that's got rid of it).

N, U, DROP ALL, TAKE ROPE, TIE ROPE TO DOOR, TAKE TORCH, U (fall through hole in stairs), TURN TORCH ON, TAKE CAN OF PARAFFIN, CLIMB ROPE, DROP ROPE, TURN TORCH OFF, TAKE SMALL KEY, TAKE LASER, TAKE BRASS KEY, N, E (small living room), TAKE BLACK BOX, X BLACK BOX, W, S, S (clearing), S, S, S, W, W, W, W, W, S, S, S, S, S, S, S, S, S (back at road), S, S, S (back on patio), UNLOCK DOORS (if necessary, need small key), OPEN DOORS, S, CLOSE DOORS, S, X CLOCK (should be around 11.30 when the night porter arrives).

WAIT (until night porter arrives at 11.30), X NIGHT PORTER (note he is carrying a thermos flask), N, E, CLIMB OVER BAR, S (beer room),





TAKE WINE, SAY BARGIRL "TELEPORT IN ATTIC", N, CLIMB OVER BAR, W, S, NE, N, N (reception office - see the thermos flask here), POUR WINE INTO FLASK, S, S, U, SW,

DROP ALL, TAKE BRASS KEY, WAIT (about 5 to 10 turns), N, D (night porter will probably catch you but that awful day porter should have gone), SW, GO TO BED ???

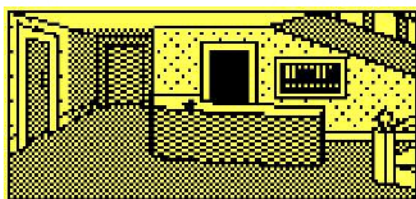
N, DROP BRASS KEY, D, X CLOCK (should be just after 1 o'clock - night porter is asleep), N, E, CLIMB OVER BAR, S (bargirl should be here) SAY BARGIRL "???"

N (bargirl follows you???)

CLIMB OVER BAR, W, W, W, N, W (into manager's office), TURN COMPUTER ON (manager slumps in his chair), SEARCH MANAGER (find a badge), WEAR BADGE. Do not turn off the computer. E, S, E, D (basement), TAKE CRATE, U, E, S, U, U, DROP CRATE, D, D, N, W, W, S, W (staff bedroom), TAKE GRENADE, E, N, E, E, S, U, TAKE BRASS KEY, SW, X DRESSING TABLE, TAKE CHAIR, N, U, PUT CHAIR ON CRATE, D, SW, TAKE LASER, TAKE BOX, TAKE PARAFFIN, TAKE TORCH, N, DROP BRASS KEY.

U, CLIMB ON CHAIR, OPEN TRAPDOOR, U (dark), TURN TORCH ON, X CONSOLE, PUT BLACK BOX INTO HOLE, STAND ON PLATFORM (teleported to alien ship), FIRE LASER, W, N, N (must be wearing badge), DIVE, FIRE LASER, THROW GRENADE, THROW PARAFFIN (you crawl south),

need Bargirl present to save you ???



About Adventure Probe

ADVENTURE PROBE is a paper-based fanzine for players of text adventures.

Probe, as it is affectionately known, is a monthly A5 magazine with 48 to 60 pages per issue. There are sections for letters, reviews, articles, advertisements, newsdesk, plus reference pages containing solutions, objects and their uses, getting you started, red herrings, bugs and amusing responses, hints and tips, and more. Contributions are sent in by the small but very loyal readership.

It was founded in June 1986 by Sandra Sharkey and Pat Winstanley. After a few years Mandy Rodrigues became editor, and in June 1992 I took over as its third editor. There is a magazine for EVERY month to date.

There have been many changes in the computer world during the last twenty years. Most adventurers started on a C64, Spectrum or Amstrad, and maybe upgraded to an Atari or Amiga. (As a matter of interest I started on a BBC B.) As it became impossible to get these computers repaired, it was a natural progression to play text adventures on a PC under various emulations, as well as the PC-specific adventures.

As the number of subscribers is falling, eventually the time will come when Probe will no longer be printed. However, one thing won't change, and that is our love of text adventures.

Barbara Gibb
Adventure Probe
52 Burford Road
Liverpool L16 6AQ
U.K.

gibb2@blueyonder.co.uk





My own main contribution to ZX Spectrum software is a couple of text adventure games written using Gilsoff's wonderful Professional Adventure Writer (PAW). As demonstrated by the enduring popularity of Douglas Adams' *Hitchiker's Guide to the Galaxy* (see **new**), a well-written text adventure can stand the test of time as a work of contemporary art, if you will, all by itself. It doesn't need to concern itself with all the bells and whistles we seem so obsessed with these days if the writing is good enough.

There are lots of IF (Interactive Fiction) authoring systems out there, but for those of us who know and love the PAW way of doing things, a Windows program that adopted this approach would have to be a gift from above, right? The good news is that not only does just such a program exist, but its already been through several revisions **and** can import Spectrum PAW (or QUILL) adventures. It's called **WinPAW**. ZXF has been asking its creator, **Douglas Harter** some questions.

PAW obviously made an impression on you when it came out. Were you a Spectrum user at the time? If so, were you previously a Quill devotee?

Actually I was a Timex/Sinclair user. I was getting a couple UK magazines and saw an ad for the Quill, so I got that first. Then when the PAW came out I ordered it also.

Before starting work on WinPAW, had you written any PAW or Quill games yourself?

I have one game which I have been working on for years, but have never completed it.

When did you come up with the idea for WinPAW; what inspired it?

February 2001. It was inspired by a program out at the time called WinQuill, a Windows version of Quill. WinQuill stopped being supported about a year after I started working on WinPAW. He even lost the source.

Was the ability to import a Spectrum snapshot (of a PAWed/Quilled game) always a planned feature or has the main function of WinPAW always been to encourage the development of new Interactive Fiction?

The main function was to encourage the development of new Interactive Fiction. However, I added imports early in the development because I needed working games to test the program.

WinPAW communicates with unPaws and UnQuill to achieve the

import facility; did you have to work with any of the authors responsible for these tools in order to manage this?

Yes, I worked with both John Elliott (UnQuill) and Alexander Katz (UnPaws) when testing. I found several bugs in both programs which they corrected for me. Both have been very helpful.

Have you ever met or communicated with either of the original PAW authors (Tim Gilbert and Graeme Yeandle) during the development of WinPAW?

Never talked to Tim. I couldn't find a way to get in touch with him. I have talked to Graeme several times. He has helped me with several code sections. I live in the USA and have never gone to the UK, so never met any of my UK users or contacts.

What has the response to WinPAW been? Is it being used within the IF community?

I really have no idea. I only know that I have 70 registered Users. I have never heard of WinPAW games. None of my users has indicated that they have written any. I do have one user who was working on one, but he now has gotten away from text adventuring. He did a good bit of testing for me on WinPaw.

The current version of WinPAW being worked on is version 6; how has the program evolved over six versions?

Version 1 was the PAW up thru

Version A16.

Version 2 added some exports in UnPaws and PC Paw formats.

Version 3 added a couple new Actions and HTML-like tags.

Version 4 added PAW Character set and graphics. I have to give Alexander Katz credit for helping me with this change. He provided me with a lot of info on how the machine code in PAW handled them.

Version 5 added being able to play Quill games. Also added was being able to use character set and graphics or not.

The main feature in Version 6 is being able to use duplicate words (use water as both a verb and noun). This was a feature of a non-spectrum version of PAW and was requested by a user. This required support for the Adventure Creation Environment (ACE), another version of PAW which was based upon that non-spectrum version.

Within the modern IF community, which are the main 'rivals' to WinPAW for developing Interactive Fiction and how do they differ from WinPAW?

Well, ACE will be a rival to PAW as soon as it is released, which should be shortly. I uses strictly text input, similar to PC Paw, another rival. There are several other major IF development packages. They are all text based (text is entered using an editor, the package compiles it using the compiler and it is then

run using the engine). The major ones are TADS, Hugo, Inform, and AGT. There are quite a few more, some still active, but most not updated in years on the [ftp://ftp.ifarchive.org/if-archive/programming/](http://ftp.ifarchive.org/if-archive/programming/) directory.

What are your future plans for WinPAW and how do you see these fitting in with the directions IF is taking as a genre?

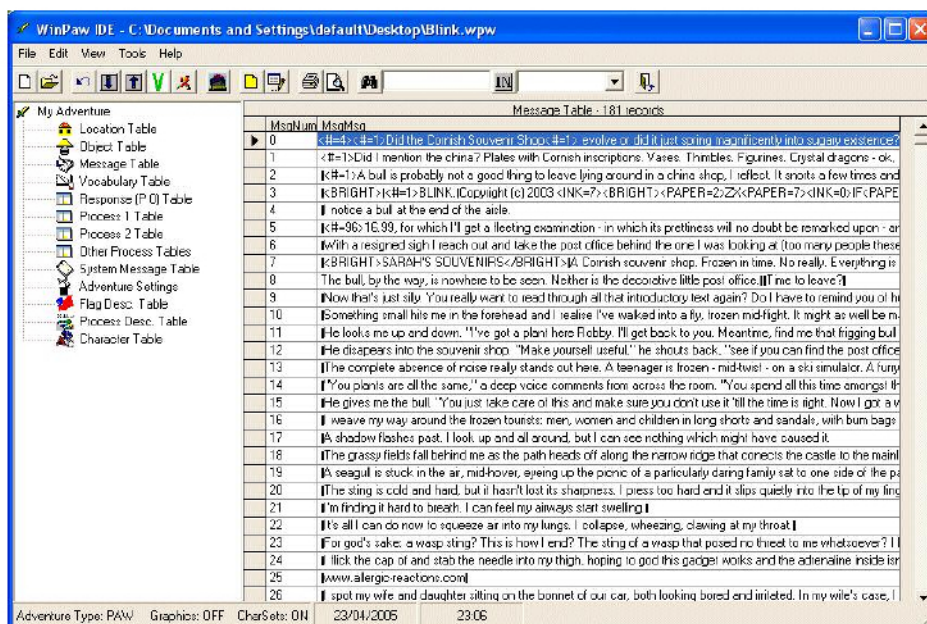
Currently the next version will add Export capabilities in ACE format and being able to import database changes from a text file. Sometimes when you have a multitude of changes it is easier to type them into a text file than to go through all the screens in Windows.

I really don't know how these fit in with the directions IF is taking as a genre. My main idea is to make WinPaw as easy to use and versatile as possible.

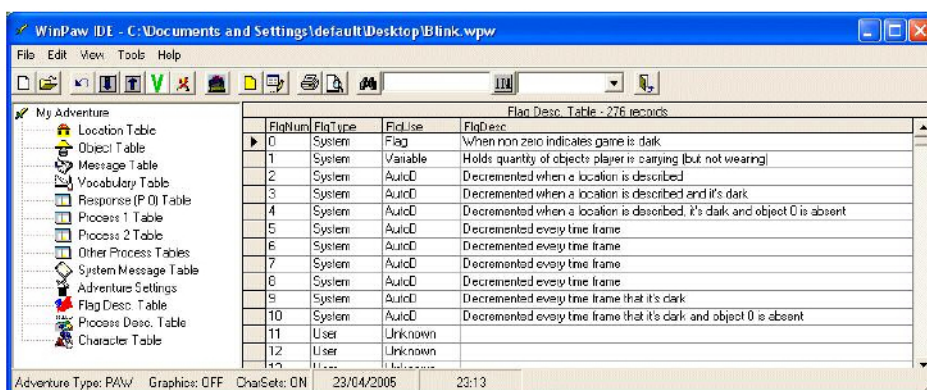
One aside, this is not the first time I wrote a version of PAW. Back when PAW & Quill were originally out, I wrote a version, strictly to see if I could do it, which actually looked like PAW & Quill in ALGOL, the main programming language on the Burroughs mainframe (Burroughs is now Univac).

Actually, I have never been too good a solver of text adventures. I have actually completed 4, one the original Colossal Cave adventure by plodding thru it for months and months. The others I had to get some hints from the internet. I did write a TADS version of the Very Big Cave Adventure once. And, as already mentioned, I have been working for years on an adventure based upon Philip Jose Farmer's 'World of the Tiers' series. I have now started it in AGT, TADS, & WinPaw. My main thrust after I am done with 6.0 is completing the WinPaw version of the 350 point Colossal Cave Adventure. It is maybe 25% completed, but I know I can do the stuff to complete it.

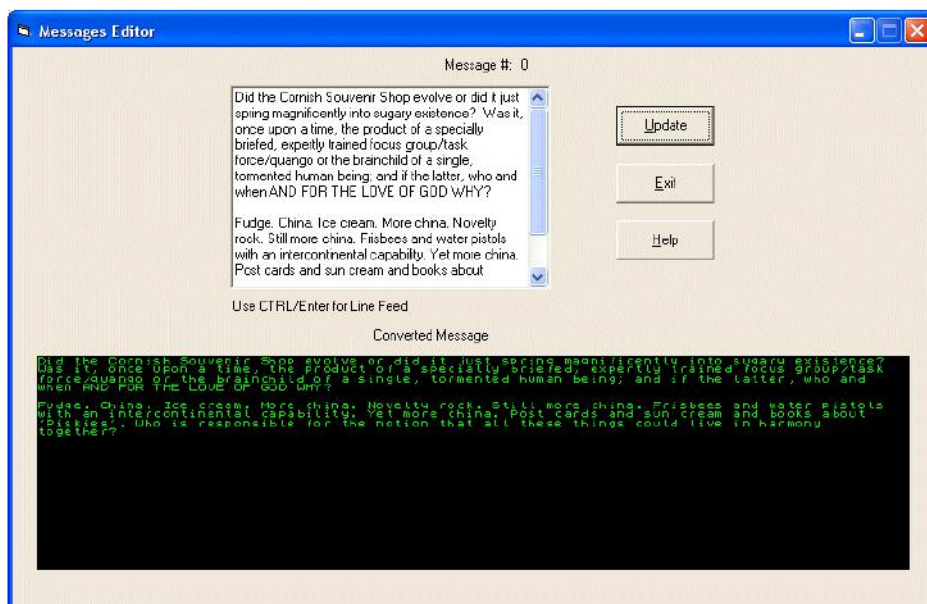
www.winpaw.com



WinPAW lists BLINK's messages.



Very useful: the incorporation of flag metadata saves all that trying to work out which flag controls whether the ogre has eaten a mint or not.



Simple editing. And you can keep the Spectrum font too.

restore



INSPIRED BY RUBBER KEYS

This +2B valiantly gave up a couple of its original keys for a +3 I stumbled across at a car boot sale two years ago. A perfectly good computer, I was reluctant to just leave it like that, particularly when I had a mucky old +2 under the bed with some sort of cassette mechanism problems. This is the solution I came up with. At first I plugged in all the grey keys of the +2, but that just didn't look right. Swapping back in all the large black keys seems to do the trick.





THE ULTIMATE SINCLAIR DESKTOP?

The Stonechip Echo Amplifier is an extremely rare find these days. It's special because it was one of the very few third party peripherals to adopt casing that mirrored Sinclair's own shape and style. It sits perfectly next to a rubber keyed 48K.

The model shown is on loan to ZXF and was cleaned up using wipes and an electric toothbrush. It came without a power supply or instructions, but a standard 48K PSU works fine.



UNLOCKING THE SINCLAIR CODE

Whilst I take a break from editing ZXF one of my new projects will be researching the Sinclair brand range of software for the Spectrum. The first piece of work undertaken has been examining the code system used by Sinclair to identify individual titles.

There's just something about the Sinclair brand. I love it. The vivid, often action-packed inlay designs have something of a Boys' Own quality about them and could hardly contrast more with the stark, basic, often BASIC contents held by the C15 within; yet I never feel betrayed by Sinclair Research packaging. It's almost as though the assumption is implicit that the onus is on me - the player - to turn chunky, spartan graphics or a very minimalist description of a desert island/alien planet into something much more exciting. System requirements: imagination. Perhaps it's just me, but it feels like there's something very British about all that.

Before the Spectrum came along the Sinclair Research software brand was already well established, of course, with plenty of titles for the ZX81 (requiring presumably even more imagination). The codes used on the spines of cassette inlays comprised a single letter to denote the genre of the software - G for games, E for education, L for languages and B for business - followed by a number. G1 was *Super Programs 1*, E1 was *English Literature 1* and so on. For Spectrum software the same coding system was used initially, the addition of an S (for Spectrum) suffixed to distinguish these from ZX81 titles. So G1/S was *Games 1* and E1/S was *History 1*. The Spectrum titles weren't completely distinct from those in the ZX81 range, however; quite a few titles appeared in both ranges (Chess, Backgammon, Space Raiders, etc) and in some cases it was clear

very little had been done to the code in its conversion to take advantage of the Spectrum's additional capabilities (perhaps most apparent for Adventures A to D, which I'm willing to wager would look identical running on a ZX81 and Spectrum side by side). Many of the ZX81 inlay designs were also re-used in the early days of the Spectrum range.

Of course the purpose of the Sinclair Research range was to provide a wide selection of games and utilities to entice the potential Spectrum buyer in the days before a mass market existed for Sir Clive's little machine. As we know now, it didn't take too long for that market to become established, but it's a fair bet that at the time the certainty of this outcome was an unknown variable and Sinclair didn't want would-be Spectrum owners turning away due to a lack of software available for the machine. As the market got on its feet Sinclair continued to support its machine though new releases, but the range was eventually brought to an end late 1984/early 1985; possibly the financial difficulties Sinclair was in by this stage played a role in this or perhaps it was just felt that the range no longer served a purpose. The *Software and Peripherals Catalogue* shipped with every Spectrum+ 128 in 1986 did not contain a single piece of software from the Sinclair Research range.

In 1984 Sinclair made a change to its brand design, introducing the silver label inlay style now achieving a fame of sorts through the trading of these titles on ebay.

From the serious collector's point of view these are amongst the more hard-to-find titles within the range and they rarely sell for less than a fiver. The first of the games range to carry this design was *Bubble Buster* (G32/S) if we go by chronological release, although if we were to go by spine code alone it would appear to be *Jet Pac*.

Jet Pac, *Pssst*, *Tranz Am* and *Cookie* were, of course, the four games by **Ultimate** to be released under the Sinclair label as ROM cartridges for the ill-fated *Sinclair Interface 2*, alongside **Psion** titles *Space Raiders*, *Chess*, *Planetoids*, *Hungry Horace*, *Backgammon* and *Horace & the Spiders*. Each one of these ten titles had been released previously in cassette version (perhaps the fatal flaw in Sinclair's marketing of this device), but the four Ultimate titles had never been released as *Sinclair* cassettes. To distinguish the Psion cartridge titles from their existing (identical) cassette versions the R (for ROM) suffix was adopted in spine codes, making the Chess cartridge, for example, G10/R as opposed to G10/S. But for the Ultimate titles there were no existing numbers to add an R to so they were just given the next four numbers available in the Spectrum sequence at that time - G27 to G30. For a while, therefore, the games sequence went from G26/S (*Flippit*) to G27/R (*Jet Pac*) through to G30/R (*Cookie*) and then to G31/S (*Chequered Flag*) - ie, from cassette to ROM cartridge and back to cassette again. But then, *some time later*, the four Ultimate titles were also added in - retrospectively - to the cassette range as G27/S to G30/S (although



in fact the Sinclair cassette version of *Jet Pac* was incorrectly coded G27/R). By this time the silver label design had been introduced and so this was the style used for these titles too.

So *Jet Pac*, *Psst*, *Tranz Am* and *Cookie* ended up being released on cassette by Ultimate, on ROM cartridge by Sinclair in the 'old' Sinclair design, and then by Sinclair on cassette again - this time in the silver label design. Extremely confusing. And it gets worse. We're not actually sure that all four titles were released as silver labels. *Jet Pac*, *Psst* and *Cookie* are all known to exist for certain as silver labels - these titles are in fact considered to be the gems of the Sinclair range on ebay, fetching much higher prices than other silver label Sinclair software - fetching much higher prices than pretty much any other *Spectrum* software. But what about *Tranz Am*? We can infer its silver label existence from the silver label existence of the other three Ultimate-formerly-ROM-cartridge titles and their cassette spine codes, but no-one appears to have ever actually seen this product. Does it even exist? If it does and a copy ever manages to find its way onto ebay it's been speculated it could well fetch three figures. If it doesn't exist... why doesn't it exist?!

But we're not done yet with the silver label mysteries - an even bigger one lurks just around the corner. At some point during 1984 Sinclair decided to change the spine code format; all of a sudden, four digit codes - each starting with a 4 - appeared in the

place of the old codes. G36/S was the last game to use the old code system (*Zipper Flipper*); instead of G37/S the next game to be released (*Match Point*) came with the code 4036. For the educational programs E24/S (*Alphabet Games*) was the last title to use the old code system; instead of E25/S the next program came with the code 4324. The only other range affected was the Business range: 4607 was the number for *Tasword Two* where the expected code would have been B8/S.

Why the change of codes and why, specifically, were these particular numbers used with which to introduce it? It turns out, in fact, that these codes were actually being used at least a year earlier, alongside the old coding system. The series of 'Sinclair Special' four page advertising supplements, tucked into a monthly magazine (I can't seem to work out which magazine - possibly *Sinclair User*) reveal this on their order forms, where products are listed using both sets of codes; *Chess Tutor 1*, for example, is listed with the code E9/S to the left of the title and 4308 to the right.

Further analysis of these order forms (WoS currently hosts Sinclair Specials numbers 1, 3, 4, 5 and 6) reveals that these order codes were in fact used for *all* Sinclair products - not just *Spectrum* software. *Spectrum* hardware items were given codes starting with 3000, ZX81 hardware items were given codes starting with 1000 (including the ZX Printer) and ZX81 software got codes starting



ZX MICRODRIVE



NOW ON RELEASE

The ZX Microdrive System - as you'd expect from Sinclair - is unique to the world of computing. It's a compact, expandable add-on system which provides high-speed access to massive data storage. With just one Microdrive alone (and Interface 1), you'll have at least 85K bytes of storage, the ability to LOAD and SAVE in mere seconds, the beginnings of a local area network of up to 64 Spectrums, and a built-in RS232C interface! The cost? Less than £50 for each Microdrive.

How to get ZX Microdrive
Spectrum owners who bought direct from us, by mail order, have been sent full details. Order forms are being mailed in strict rotation, so if you haven't yet received your order form please bear with us. We're making good progress in meeting the huge demand.

If you didn't buy your Spectrum by mail order, don't worry. Send us the form from the bottom of this page. We'll add your name to the mailing list, and send you details by return.

Each Microdrive costs £49.95. Interface 1 costs £49.95, but just £29.95 if purchased with a ZX Microdrive. Extra ZX Microdrive cartridges: £4.95.

sinclair
Sinclair Research Ltd, Brookside Road, Camberley, Surrey, GU15 3BP. Telephone: (0276) 663311.

sinclair special

5



How to order
Simply fill in the relevant sections on the order form below. Note that there is no postage or packing to pay on some purchases. Orders may be sent FREEPOST (no stamp needed). Credit card holders may order by phone, calling 01-200 0200, 24 hours a day. 14-day money-back option, of course. Please allow 28 days for delivery.

To: Sinclair Research Ltd, FREEPOST, Camberley, Surrey, GU15 3BP.

Section A: Hardware

Qty	Item	Code	Item Price £	Total £
	ZX Interface 2	8501	19.95	
	ZX Spectrum - 48K	3000	129.95	
	ZX Spectrum - 16K	3002	99.95	
	Postage and packing: orders under £90	0028	2.95	
	orders over £90	0029	4.95	
			TOTAL £	

Section B: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section C: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section D: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section E: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section F: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section G: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section H: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section I: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section J: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section K: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section L: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	
	L6/S Print Utilities	4404	9.95	
			TOTAL £	

Section M: Software ROM CARTRIDGE PROGRAMS

Qty	Item	Code	Item Price £	Total £
	G12/R Planetoids	5302	14.95	
	G9/R Space Raiders	5300	14.95	
	G13/R Hungry Horace	5303	14.95	
	G24/R Horace and the Spiders	5305	14.95	
	G28/R PSSST	5307	14.95	
	G30/R Cookie	5308	14.95	
	G29/R Tranz Am	5309	14.95	
	G27/R Jet Pac	5306	14.95	
	G22/R Backgammon	5304	14.95	
	G10/R Chess	5301	14.95	

CASSETTE PROGRAMS for ZX Spectrum

Qty	Item	Code	Item Price £	Total £
	E7/S Chess Tutor 1	4308	9.95	
	E7/S Musicmaster	4306	9.95	
	E8/S Beyond BASIC	4307	9.95	
	E6/S Make-a-Chip	4305	9.95	

THE DEFINITIVE LIST OF SINCLAIR RESEARCH SOFTWARE FOR THE ZX SPECTRUM - a working document!!

First column gives actual spine codes, second gives order form codes. Order form codes highlighted in red are confirmed - i.e. they have been seen on a Sinclair order form. Order form codes in black, therefore, are 'assumed'. Thus the slightly 'out of sync' numbering from Backgammon to Scrabble is not a typing error. All Spine codes are confirmed except G29/S, 4037, 4331 and 4332.

GAMES

G1/S	4000	Games 1
G2/S	4001	Games 2
G3/S	4002	Games 3
G4/S	4003	Games 4
G5/S	4004	Games 5
G6/S	4005	Pastimes 1
G7/S	4006	Pastimes 2
G8/S	4007	Biorhythms
G9/S	4008	Space Raiders
G10/S	4009	Chess
G11/S	4010	Flight Simulation
G12/S	4011	Planetoids
G13/S	4012	Hungry Horace
G14/S	4013	Adventure A: Planet of Death
G15/S	4014	Adventure B: Inca Curse
G16/S	4015	Adventure C: The Ship of Doom
G17/S	4016	Adventure D: Espionage Island
G18/S	4017	Reversi
G19/S	4018	The Hobbit
G20/S	4019	Embassy Assault
G21/S	4020	Horace goes Skiing
G22/S	4021	Backgammon
G23/S	4023	Cyrus-IS-Chess
G24/S	4022	Horace & the Spiders
G25/S	4024	Scrabble
G26/S	4025	Flippit
G27/R	4026	Jetpac
G28/S	4027	Pssst
G29/S	4028	Tranz Am ???? <i>in theory - never seen</i>
G30/S	4029	Cookie
G31/S	4030	Chequered Flag
G32/S	4031	Bubble Buster
G33/S	4032	Driller Tanks
G34/S	4033	Eric and the Floaters
G35/S	4034	Stop the Express
G36/S	4035	Zipper Flipper
4036	4036	Match Point
4037	4037	?????? <i>no known title - a mistake?</i>
4038	4038	Panama Joe
4039	4039	Return of the Jedi: Death Star Battle

EDUCATIONAL

E1/S	4300	History 1
E2/S	4301	Geography 1
E3/S	4302	Inventions 1
E4/S	4303	Music 1
E5/S	4304	English Literature 1
E6/S	4305	Make a Chip
E7/S	4306	Music Master
E8/S	4307	Beyond BASIC
E9/S	4308	Chess Tutor 1
E10/S	4309	Learn to Read 1
E11/S	4310	Learn to Read 2
E12/S	4311	Learn to Read 3
E13/S	4312	Learn to Read 4
E14/S	4313	Learn to Read 5
E15/S	4314	Cargo
E16/S	4315	Glider
E17/S	4316	Survival

E18/S	4317	Magnets
E19/S	4318	Early Punctuation
E20/S	4319	Speech Marks
E21/S	4320	The Apostrophe
E22/S	4321	Capital Letters
E23/S	4322	Castle Spellerous
E24/S	4323	Alphabet Games
4324	4324	Oil Strike
4325	4325	Weathermaster
4326	4326	Planet Patrol
4327	4327	Disease Dodgers
4328	4328	Alphabetter
4329	4329	Wordsetter
4330	4330	Spellbox
4331	4331	Soundabout ?? <i>these two could be</i>
4332	4332	Bodyswap ?? <i>the other way round</i>
4333	4333	MacMan and the Caber Eater
4334	4334	MacMan in the Treasure Caves
4335	4335	MacMan's Magic Mirror
4336	4336	MacMan and the Great Escape
4337	4337	Number Painter
4338	4338	Estimator Racer

LANGUAGES

L1/S	4400	FORTH
L2/S	4401	Micro Prolog
L3/S	4402	Zeus Assembler
L4/S	4403	Monitor and Disassembler
L5/S	4404	Print Utilities
L6/S	4405	Sinclair Logo

PERSONAL

P1/S	4500	Cattell IQ Test
------	------	-----------------

BUSINESS

B1/S	4600	VU-CALC
B2/S	4601	VU-FILE
B3/S	4602	VU-3D
B4/S	4603	Collector's Pack
B5/S	4604	Club Record Controller
B6/S	4605	Small Business Accounts
B7/S	4606	Which? Tax Calculator 1983-84
4607	4607	Tasword Two
4608	4608	Tiny Touch 'n' Go

ROM CARTRIDGES

G9/R	5300	Space Raiders
G10/R	5301	Chess
G12/R	5302	Planetoids
G13/R	5303	Hungry Horace
G22/R	5304	Backgammon
G24/R	5305	Horace and the Spiders
G27/R	5306	Jet Pac
G28/R	5307	PSSST
G29/R	5308	Tranz Am
G30/R	5309	Cookie



SOUNDTRACKER

Matthew Westcott contemplates himself for the role as the tenth Doctor whilst he completes the third and final installment of his Soundtracker tutorial.

Well, what do you know? One minute we're beavering away on a Spectrum rendition of the Doctor Who theme, and before you know it the Beeb are rewarding us with a brand new series. Time for us return the favour by dressing up our soundtrack with special effects that would do the BBC Radiophonic Workshop proud. Load up the track at the point we left off last time, and we'll get cracking.

Ornaments

Head for the 'Orn.Edit' button, and choose ornament number 1. You're presented with an interface that looks rather like the second page of the sample editor, and there's a good reason for that - it does pretty much the same thing, varying pitch over the duration of a note. There are two differences: firstly, with ornaments you have more control over the musical scale because you're adjusting the note up and down by complete semitones, rather than those hazy indefinable wave periods (although this does mean that you can't use them for pitch shifts and whatnot, because they rely on adjustments finer than a complete semitone). Secondly, they're separate from samples and therefore one ornament can be applied to any sample you like, even one that's already got some pitch shifting built in.

Ornaments are just the ticket for inserting grace

```

+00 +12
+00 +12
+07 +00 PRESS :
+07 +00
+12 +07 @,CS-UP,DOWN
+12 +07 O,P-LEFT,RIGHT
+00 +12 W,S-^v 12
+00 +12 E,D-^v 1
+07 +00 M-SGN CHANGE
+07 +00 SPACE-CLEAR
+12 +07 Q-PLAY
+12 +07
+00 +12
+00 +12
+07 +00
+07 +00

```

SOUND TRACKER 128 - ORNAMENT E

Figure 3.1

notes and twiddly bits into your music - these are things which are referred to as 'ornaments' in traditional music, after all - but the most popular use of them is to generate fake chords that rapidly cycle between notes so that they blend together (hopefully) and simulate more voices than the three channels you're limited to. Figure 3.1 illustrates the concept - we alternate between +00 (the base note), +07 (an interval of a fifth above the base note), and +12 (an octave above). As usual, press 0 to listen to the result - a nice fat power chord.

Notice that we hold each note for two frames before moving on to the next - this happens to sound better than simply alternating between +00, +07, +12. If you do that, the notes are played so quickly that they lose their musical quality, and come out as a rather unpleasant 'warble'. Try it out if you don't believe me. Actually, try it out even if you do believe me.

In most of my compositions I find that the quota of 15 ornaments gets used up very quickly, with major and minor chords turned around every which way, but as it happens we can get by with just the one in this case. We need a sample to

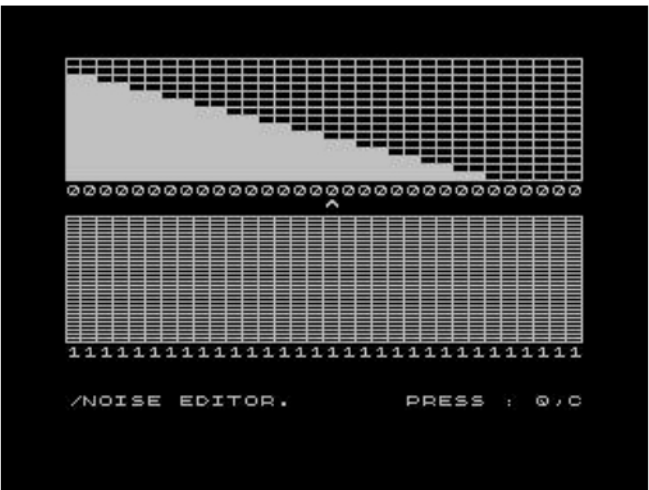


Figure 3.2

overlay our ornament onto, so edit sample number 5 to look like figure 3.2 - leave all the pitch values at +0000. Nothing new here - just a pure note that's a bit quieter than sample 1, so that we

don't drown out the melody.

Going back to the main tracker screen, we can enter our chords into channel C of our pattern. The following notes will give us a simple but effective rhythm:

```

00 F-4 5F01
01 --- 0000
02 F-4 5F01
03 --- 0000
04 --- 0000
05 F-4 5F01
06 F-4 5F01
07 --- 0000
08 F-4 5F01
09 --- 0000
10 --- 0000
11 F-4 5F01
12 G#4 5F01
13 --- 0000
14 G#4 5F01
15 --- 0000
16 --- 0000
17 G#4 5F01
18 C-4 5F01
19 --- 0000
20 C-4 5F01
21 --- 0000
22 --- 0000
23 C-4 5F01

```

The right hand column is where the ornaments come in to play: the 5 refers to sample 5 as usual, the F is a special instruction to tell the tracker to use an ornament, and the 1 tells it to select ornament number 1. (The zero is... well, just a zero.)

Copy rows 00-23 to rows 24-47, using the 'Move Text' facility we covered last time, so that we have the chords covering the whole pattern.

I should point out that if you have a zero in the 'F' column, it will continue to use the last ornament played, so in that respect it behaves a lot like a zero in the 'sample number' column, and in fact we could get by with just entering the 5F01 into

row zero and leaving the rest at 0000 - but don't do that, because we're about to add some more notes there in a minute. If you want to go back to playing plain vanilla samples with no ornaments, put F00 as the last three digits (effectively selecting ornament number 0, a special 'do nothing' ornament).

Envelopes

The boffins who designed the AY chip didn't know anything about trackers. They assumed that people would tend to pick a volume level for their notes and stick to it. In an effort to liven things up a bit, they introduced the concept of envelopes - these allow you to vary the volume level continuously over time, so you can have a note that starts at full volume and fades to nothing, or one that swells from nothing to full volume, or one that repeatedly fades in and then out... The full set

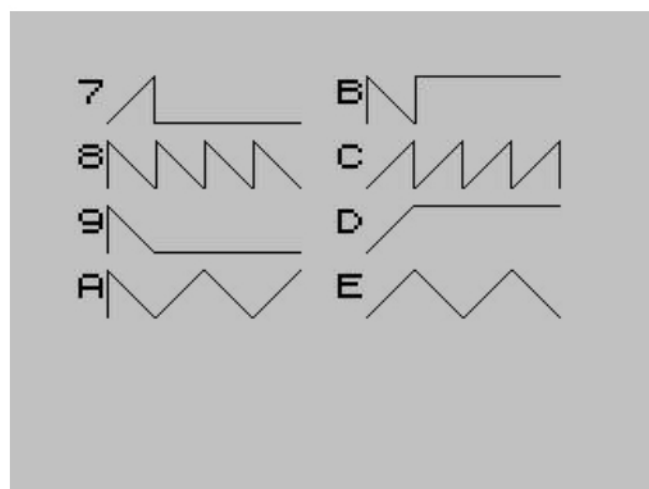


Figure 3.3

of permutations is shown in figure 3.3.

Of course, with Soundtracker samples we can do all that and a lot more besides, so you might wonder why we bother with envelopes at all. Well, they have one important trick up their proverbial sleeve - you can take any of the repeating envelopes (8, A, C and E) and speed them up to insane degrees, much faster than the 50Hz limit that comes as standard with Soundtracker. When you do that, it stops being a way of adjusting the volume of the waveform, and starts being a waveform all of its own. A nice juicy triangular or sawtooth wave to be specific - one that's particularly good for bass lines, although on special occasions AY musicians will be particularly daring and use it as the lead instrument.

Because they're controlled in hardware on the AY



itself, the Speccy can still continue talking to the AY chip at the normal 50Hz rate, so this trick doesn't suck up any more of the Spectrum's processing time than a normal wave would. You can only have one envelope running at any time, but you can have as many of the channels as you like following that envelope for their waveform.

To start playing around with envelopes, we need an ordinary sample with pure tone, no pitch bending or anything fancy like that. The shape or volume of the sample doesn't matter, because the envelope is going to override that. Our newly-created sample 5 will fit the bill. In our vacant slot in row 01 of channel C, enter this:

```
F-2 5C23
```

A bit jarring, no? What's going on here is actually quite involved, so let's take it slowly: On the one hand, you're playing an ordinary note at pitch F-2 - a square wave note, to be precise. On the other hand, you have the instruction 'C' on the right which tells it to ignore the shape of the sample and instead use the sawtooth pattern as indicated on our graph. The volume is rising and falling every 23 squillionths of a second (the exact definition of a squillionth is unimportant to us) - this effectively slices up the note into very short pulses. I just plucked the number 23 out of the air, so inevitably the points at which the note is sliced up will fail to match up with the highs and lows of the square wave, and as a result we get a horrible farty noise. Got that? Good. Hopefully you won't be put off when I tell you that the number 23 is actually in hex.

Since we are, after all, exploiting an unintended quirk of the AY chip, we don't have the luxury of working with musical note names here, or even any guarantee that we can perfectly match up the envelope speed with our desired note. It all has to be done through trial and error. So, take that number 23 and gradually increment it through 24, 25... 29, 2A, 2B... you'll find that the tone goes down until you reach 2D, where it settles in tune with the F-2 note. It's not very bass-like though - it could do with being an octave lower, and to do that we need to double the number. I'm not very good at mental arithmetic in hexadecimal, so I'll just say that it's fifty-something and fiddle around with different values until we arrive at 59. There's an endless variety of ways you

can tweak the final sound - using F-1 instead of F-2 will give a deeper note, and putting 3C as the envelope speed (a number half way between the two 'sensible' values we identified) will produce some gritty harmonics. Here we'll build our bass riff by alternating between envelopes C and A - the latter is a bit mellower due to the smoother waveform. Cramming our remaining notes into the gaps in channel C, this is how it works out:

```
01 F-2 5C59
```

```
03 F-2 5A59
```

```
04 F-2 5C59
```

```
07 F-2 5C59
```

```
09 F-2 5A59
```

```
10 F-2 5C59
```

Now, after that string of Fs, we get a bit in G sharp followed by a bit in C. As a quick test, see if you can figure out some sensible envelope values to use in those keys. While you're doing that, allow me to go off on a brief diversion.

One thing I haven't covered up to now is the transposition capabilities of Soundtracker. This comes in two forms: firstly, there's the 'Transposition' option lurking under 'other', which presents you with a cheap-and-cheerful interface for shifting a section of a pattern up or down a prescribed number of semitones, looking rather like the 'Move Text' feature. Secondly, when you're working with positions, and placing a pattern at a certain position in the song, you can fiddle with the 'height' slider to get the entire pattern shifted up or down, and instantly create your own Eurovision-style cheesy key changes.

Unfortunately, these features aren't what they've cracked up to be, due to what we've just learned about envelopes. Soundtracker can transpose the actual notes, but there's no way to automatically adjust the envelope speeds to match new notes. Consequently, the 'height' slider is almost no use at all (except for those rare occasions when you choose not to use envelopes anywhere), and the 'Transposition' button will only help if you're prepared to go through the transposed data afterwards, fixing up any envelope-based notes that have been trashed in the process.

Enough of that though - back to our bassline.

Hopefully you'll have arrived at something not dissimilar to the following:

```
13 G#2 5C4B
15 G#2 5A4B
16 G#2 5C4B
19 C-2 5C3C
21 C-2 5A3C
22 C-2 5C3C
```

Copy this to the second half of the pattern again (rows 24 onward), and we're pretty close to our final version. There's one last mystery to explain, though, and it's back in the sample editor. Edit sample number 6, and use the M key to set both rows of 0s into 1s. You know all about the bottom row - a digit 1 in that line masks out the white noise - but we now turn our attention to the row above. This masks out the volume setting, effectively silencing the sample. But why on earth would you want to do that? Surely if you wanted a silent sample for whatever reason, you'd just set the volume level right down to the bottom?

The answer is that it turns off the square wave, while still allowing envelopes to do their stuff. (For the more audio-minded among you, it fixes the signal in the full-amplitude 'on' state, so there's no wave produced, and consequently no sound, unless you move the signal up and down by changing the volume.) In other words, this gives you a pure triangular or sawtooth wave, which is smoother and quieter than the triangular and square wave mish-mash that we were working with just now. The fact that it's quieter is particularly fortunate, because there's no way of playing envelope-based notes at (say) half volume.

Return to the pattern editor, and from row 24 onward, change all the notes that use envelopes A or C to use sample 6, with envelope A. Hear the difference? There are two things to bear in mind when working with 'muted' samples - firstly, changing the note from F-2 to anything else has no effect whatsoever, and secondly, because you're not mixing waves there's no audible 'cue' to know when you've hit the right pitch - you have to play it by ear. In our case we've already got our values worked out, though, so no worries there.

Epilogue: The Soundtracker compiler

Even though it's a completely different subject, it would be awfully impolite of me not to tell you how to use your music outside of the tracker. What you need to do is save your track from Soundtracker, and then fire up the Soundtracker compiler (available from World Of Spectrum, unsurprisingly enough). Load the saved Soundtracker data, then hit 'Compile Song' and wait for it to do its stuff. Then go to 'Merge Play Routine' and choose where the music is going to reside in memory - 49152 is the usual address to go for if you don't have any better ideas. You're then ready to save the compiled data file, and as you do so, you'll be told a bunch of important addresses. The first one is for the initialise routine, which will reside at the address you chose - you need to call it before playing the track, and again when you want the AY chip to shut up. The player routine proper starts 6 bytes further on, and you need to call this every 50th of a second while the song is playing. In Basic, it looks like this:

```
10 CLEAR 49151
20 LOAD "my_track"CODE
30 RANDOMIZE USR 49152: REM initialise
40 PAUSE 1
50 RANDOMIZE USR 49158: REM play
60 IF INKEY$<>" " THEN GO TO 40
70 RANDOMIZE USR 49152: REM silence
```

If you want to have more than one tune kicking around, then save the subsequent ones out from the compiler without going through the 'Merge Play Routine' step. Before calling the initialise routine, poke (initialise address + 1) and (initialise address + 2) with the start address of the track you want to play. Machine code programmers will find ample opportunity for hacking the player to suit their own evil plans.

And, if I'm not mistaken, that just about wraps up our tour of Soundtracker's capabilities. From here on, all that remains is to take this knowledge and apply it towards your own creative ways. Good luck and happy composing!



SPECTRUM EMULATION ON THE GP32

Matthew Wilson takes us on a tour of handheld fun, ZX Spectrum style; courtesy of the GP32

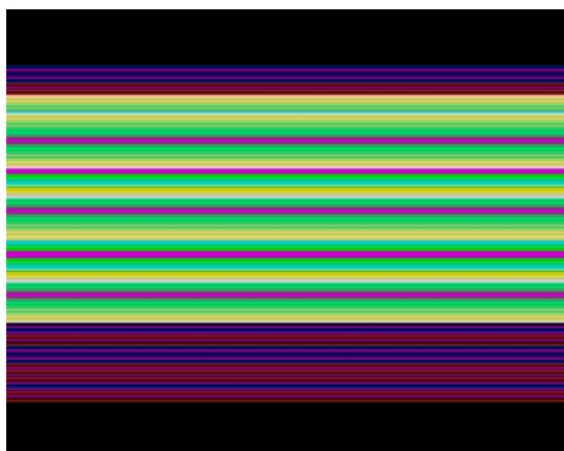
A while ago I picked up a GP32 – a relatively little-known hand-held console from Korea. There are development kits available for the GP32, it is capable of playing ports of games such as DOOM, and even recently had a release of MAME (until the author was forced to remove it temporarily for licensing reasons). There are also a number of emulators available for it. This article looks, for obvious reasons, at the current selection of Spectrum emulators.

For my testing, I chose a few familiar games (Manic Miner, Starquake) plus, on the advice of a few World Of Spectrum forum regulars, some additional programs to push the emulators hard:

- Aquaplane has an effect where the sea should extend into the border
- Cobra tests the emulation of the floating bus
- Overscan for multi-colour and border effects
- Fairlight, for 48K multi-channel beeper effects

GPSpeccy 0.06

Below: Overscan demo



GPSpeccy 0.06 seems to support SNA files only. Unfortunately it took me a while to notice this, although I suppose there was a clue in the directory from which it loads snapshots – GPMM\SNA. (It attempts, and fails, to load TAP files).

The keyboard selector (brought up with the left shoulder button) is an attractive photostyle view of the 48K keyboard complete with keywords, but it does take up the whole screen. I found the smaller views of ZXGP32 and fZX32 more convenient. The right shoulder button cycles through the available control options: Cursor, Kempston, Q/A/O/P/M, and Z/X/N/M/Space. I found Kempston support to be slightly unreliable – it doesn't seem to work in Aquaplane, for example.

The graphics in Cobra are flickery throughout, but the game still plays essentially correctly. There is no border effect on Aquaplane.

ZXGP32 Beta 3

This boots by default into the familiar 128K menu.

Left shoulder button brings up a pop-up keyboard, pushed down into the bottom-right corner of the screen (mostly in the border).

Start brings up the main

menu, allowing you to choose the Spectrum model (128 or 48K), Render Mode (FAST vs ULA).

Select brings up the file selector (capable of loading games from any directory). There is no .ZIP support or auto-loading of tape files, so you'll have to use the keyboard to enter LOAD "" (in 48K mode) or the main menu (in 128K mode) to load your .TAP files once selected.



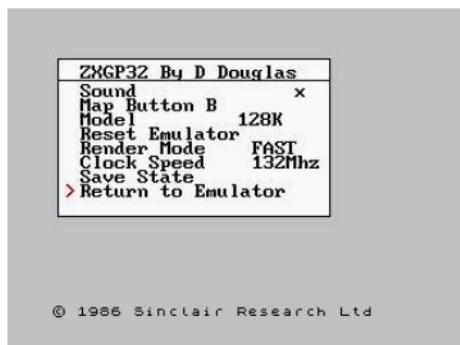
Above: GPSpeccy keyboard selector

Joystick support is for Kempston only.

Cobra is more flickery than normal but still plays a good game.

The border effect in Aquaplane is rendered perfectly when the Render mode is ULA. When the Render mode is FAST, there is no border effect. Changing the render mode did not make an obvious difference to the speed at which games actually played.

After this achievement, I loaded NMI3 with some hope, but sadly part 6 ("Splitty Overscan") displays "Unknown opcode – ED 65". The release notes do acknowledge that not all opcodes are implemented yet.



Above: ZXGP32 Options menu

The music on Fairlight is tolerable but not perfect. "Overscan" produces a reasonable effect in the border, but it's not in synch with the effect on the main part of the screen.

SpeccyAl K 0.7

Curiously, SpeccyAl K loads with border emulation switched off. This tends to leave artefacts from the startup or Options screen remaining in the border area, so I suggest switching it back on straightaway (use both shoulder buttons to reach the Options screen). There wasn't any obvious impact on performance.

The file selector (right shoulder button) allows directory browsing, which is a definite plus point. There is autoloading of TAP files, plus SNA support, and, supposedly, Z80 support, although my 128K snapshot of Fairlight 2 didn't seem to load. Also, attempting to load a file seems occasionally to cause the GP32 to reboot.

The keyboard popup is another full-screen image. Note though that, unlike elsewhere in this emulator, it's the B key to select a key.

Joystick selection is between Cursor, Sinclair 1 or 2, and user defined keys – there is no Kempston

support.

There was no border effect in Aquaplane, whether or not the "Fast rendering" option was on. The Overscan demo doesn't look too hot either.

The sound on Fairlight is pretty unpleasant to the ear.

SpeccyAl K plays a mean game of Cobra, however, with non-flickering sprites, provided that "Fast rendering" is off (the default mode).

fZX32 (Xmas edition)

This is probably the sleekest and most capable emulator currently available on the GP32. It starts up with a splash screen (based on a Head Over Heels room with a variety of game characters in it). It then impresses further by attempting to automatically identify the games you have saved onto the card (in \GPMM\ZX). For example, Manic Miner displays as "Manic Miner (1983) (Bug-Byte Software)". Although this approach can clearly only work for games known by the emulator, it is a nice touch. (Note however that if you add any games to this directory, you will have to rescan it.)

fZX32 seems to be the most capable of the emulators here for loading different formats. It loads from inside ZIP files, it loads Z80 and SNA files (it is the only emulator here which I could get to load as 128K Fairlight 2 snapshot), it has TAP and partial TZX support, and fast-loading and auto-loading of tape files.

SELECT brings up the usual pop-up keyboard. This version is quite usable and can also be moved around the screen.

There seem to be some timing problems on fZX32. In Manic Miner

for example, Willy crosses the screen almost twice as quickly as he does in Spectactulator, although the 'Debug' option shows a speed of around 103%.

fZX32 also plays Cobra without flickering sprites. It also manages a near-perfect rendering of the Overscan demo. Its rendition of the Fairlight music is hideous – but in fairness, the release notes do say that the beeper will be improved in the next release.

Conclusion

Although the current generation of GP32 Speccy emulators can't compete with what's available on Windows, and they might not all be able to cope with the special effects in demos, they will generally give you a decent play of your favourite Speccy games.

It would be nice if emulator authors could either agree on a directory in which to look for snapshot and tape files, or if they could all provide a multi-directory browser.

At the moment, fZX32 seems to have the best general usability, with perhaps some problems getting the timing right. SpeccyAl K is probably the next most capable in terms of its functionality.

(c) 2005 Matthew Wilson





A BRIEF HISTORY OF ZXF

A brief look back over ten issues of ZXF. Hope you enjoyed them!

And so it's time for the blinds to be drawn in the ZXF office for the last time in a while. Everything's turned off and unplugged, the bins are empty, the mugs are washed and a note's been left out for the milkman.

Enough time for a quick retrospective? Oh go on then. There's still a few minutes' leccy in the meter, after all.

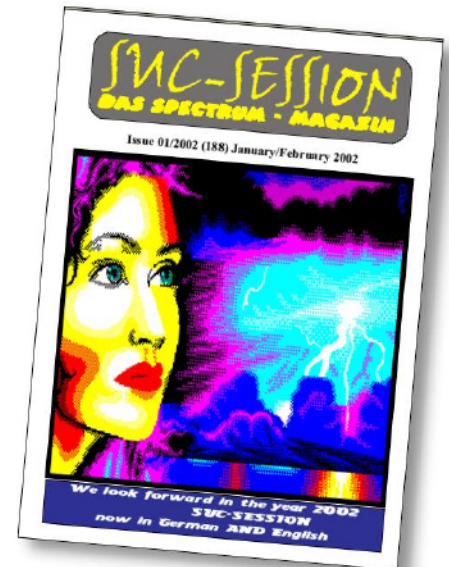
Where did it all begin? Well that was with 'ZX Format,' a little web site I knocked together out of an idea that it would be really cool to make a website almost entirely out of Spectrum graphics. Yeah well... things have got to start somewhere. The tag line for the site was "Remembering the ZX Spectrum." These were the days before I'd discovered **comp.sys.sinclair**, you understand. Oh I'd read about it - I knew it was out there somewhere, but I hadn't got my head around newsgroups back then and so I'd decided it had to be some sort of web site somewhere which everyone thought was really great, but no-one was prepared to actually link to it for fear of reprisal. Kind of a freemasonry sort of thing. Kind of... Of course once I finally worked the newsgroup thing out and found myself a darkened corner within **CSS** from which to lurk I soon realised there was no shortage of people already remembering the Spectrum.

My next idea was to build a Spectrum in a PC case after I saw something along these lines on **LCD's** site. Except that my machine, I decided, would be hooked up to microdrives, a 3 inch disk drive and a Plus D 3.5 inch drive. Oh yes. And this ultimate Spectrum would be

called a **ZX-Box**, which was of course an utterly hilarious play on the phrase **X-Box**.

Luckily for me I've never had much trouble accepting the notion that what I understand to be true about something might actually bear about as much resemblance to the truth as a 45 minute WMD claim, so recognising that I would have to do some pretty damn hefty research was all part of the project. The way I personally learn things best of all is to write about them - putting information down on paper forces me to look at the connections between facts and ideas, and the overall patterns apparent. So when I next encountered the first English language version of the German Speccy mag **Suc-Session** a few lights started to come on. Retiring to bed that night with my freshly printed copy I was struck by just how good it was to have something physical to read about the Speccy again. The time between that moment and the first issue of ZXF was just a few weeks...

Since then ZXF has grown from 28 to 56 pages and the DTP file size for each issue has risen from under ten to over a hundred and fifty megabytes. The first issue was really quite a simple affair, a five page BASIC listing and a two page short story of mine occupying a large chunk of the magazine; images were small and boxy and the font was kept to Arial and Times New Roman throughout. The PDF conversion program I used then - PDF 995 - wasn't all that happy with embedded fonts at the time (although newer versions appear to handle this fine) and apostrophes, for some obscure



ABOVE: The first English language version of **SUC-SESSION** was something of an inspiration. Once downloaded you could print it out like a booklet. To say that this brought about some serious nostalgia is something of an understatement...

reason, appeared to cause it particular difficulty (mind you, why should a computer program be immune to the apostrophe abuse sweeping across the English writing world). This all changed with issue 4, when both DTP and PDF programs were updated and a whole load of new possibilities were opened up. To be honest, issue four could have been a lot better in its layout than it was - bits of it worked and bits of it didn't - but it was very much an experimental issue in that respect.

Cover design had been decidedly iffy up until issue 5, at which point I started putting a bit more time into their design. Issue 5's cover was of course a picture of the BT tower (and it would have



ABOVE: The first issue of ZXF was produced using Pressworks 2 and converted to PDF format using the freeware program PDF 995. Graphically fairly unambitious, the DTP file for the issue weighed in at a slice under 9MB. Also, PDF 995 had a few difficulties with fonts in those days, so the typeface was kept at Arial throughout to avoid complications - even so there were a few difficulties (with apostrophes) occasionally. JAWS PDF, however, experienced no such problems, and at the same time that this was introduced (issue 4) the DTP software was also upgraded to Greenstreet Publisher 3. The way was clear for some much more complex and creative work! The DTP file for this issue, for example, weighs in at over 150MB. In ten issues also the pagecount has gone up from 28 to 56 pages.

worked a lot better had it been full cover) - a homage of sorts to the artwork of John Harris (who designed the cover to the original Spectrum manual, introduction booklet and Interface 1 & Micro-drive manual). Issue 6's cover took me ages and was inspired by Oliver Frey's CRASH issue 36 cover. Issue 7's cover was a detail from a photo of my own Spectrum software collection (passed through a whole cocktail of PSP filters). Issue 8 - a popular cover, apparently - is testament to what you can do with a digital camera and a sand pit on a bright Sunday morning (sorry to those of you who imagined me digging away on a beach somewhere, but the ZXF expense account wouldn't stump up the bus fare). Issue nine was straightforward - a Christmassy 3D stereogram featuring Horace (I'd always thought that Spectrum sprites might lend themselves particularly well to stereograms and wanted to experiment). This issue's cover is a play on the phrase 'The ZX Spectrum on your PC' and involved a PC keyboard blue-tacked to the wall of the ZXF office and an LCD projector.

'The ZX Spectrum on your PC,' of course, is another project to have come out of ZXF. As is ZXIF, the interactive fiction software label (which will see more releases in future, I promise). And the ZXF website. And a number of articles for Micro Mart magazine. And a sizeable contribution to last year's Your Sinclair revival issue. Gratifying things, for sure, although the most gratifying thing of all, by a very considerable margin, is the sheer number of countries in which ZXF is read and enjoyed.

Well, that's it for now. Just one last check to make sure the fridge door's open. And I'm out of here. Out of the door... down the street... feeling the sunshine... smelling the air... Did I shut all the windows? Oh crap...

ZX Format

Remembering the Sinclair ZX Spectrum

Games that broke the rules
Games that broke the joystick
Games to benchmark your PC by
The Forest Stop



MAIN MENU

10 HOME
20 ABOUT the Spectrum
30 DOWNLOAD " " "
40 GOTO other sites
50 LET pc = zx
60 CONTRIBUTE
70 READ a novel
K



GAMES TO BENCHMARK YOUR PC BY

As if waiting for the wretched things to LOAD wasn't bad enough, there were some games that treated your time as an endless commodity. Never mind your complicated diagnosis packages, if you want a real test of your PC's performance, try loading up The Hobbit on your emulator and see how fast it manages to colour Bilbo Baggins' carpet that lovely shade of purple. And to this day I still marvel at Psion Chess, a game that took an hour to make a move on level nine, even though Sinclair recommended leaving your Spectrum turned on for no more than 24 hours without letting it cool down!



And then there's Football manager, possibly one of the slowest, yet most addictive games in Spectrum history and written entirely in Spectrum BASIC.

And here at ZX Format we've managed to unearth exclusive unseen Football Manager material. Enjoy, if you will, scenes from **Football Manager: The Programmer's Cut**.



Psion Chess, shown here at actual speed.



The Fight: Arsenal suddenly 2 - 1 up against Villa, Keegan, in a moment of anger, gave a one fingered salute to Osman. Mayhem ensued. Five minutes later the crowd were on the pitch throwing cans of Lilt at each other.



The streaker: As if from nowhere and wearing nothing but a new romantic haircut, Gary Smith, 29, jumped onto the pitch to show his own brand of tackle to the fans watching this Southampton - Forest game.



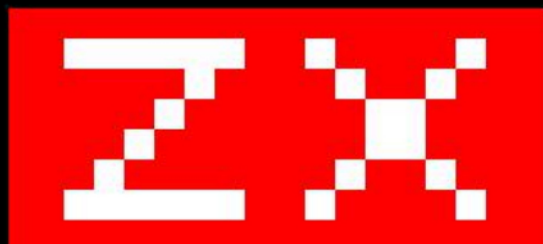
The hand of God: Claiming divine intervention, Talbot popped this one into the back of the net with a swift piece of wrist action, putting Man United in the lead in a so far goalless match. An enquiry ensued.

Before ZXF: ZX Format was my website for "Remembering the ZX Spectrum." It became clear very quickly that no-one actually needed any help remembering. The logo was a play on the popular PC magazines of the time, in particular PC Advisor and PC Format.

SUMMER 2002/Issue 1

Coming back to Sinclair?

ZX F 04
SPECTRUM COMPUTING TODAY



2002 - 2005

Issues 1 to 10

ZX F 05
SPECTRUM COMPUTING TODAY



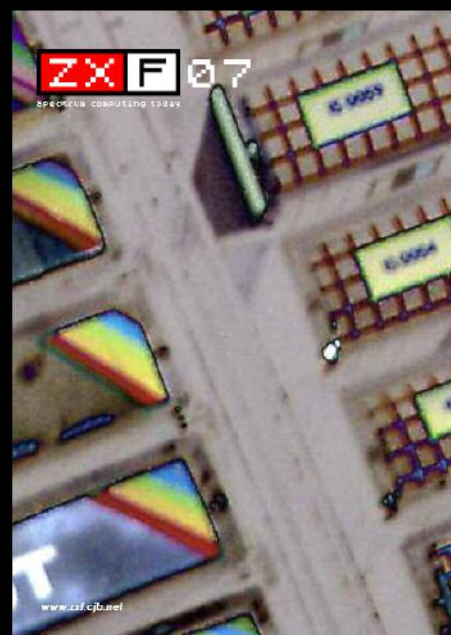
ZXIF
ZXCf
SZX
YABUS.ZX
ZXUSB

plus...
REALX exclusive

ZX F 06
SPECTRUM COMPUTING TODAY



ZX F 07
SPECTRUM COMPUTING TODAY



ZX F 08
SPECTRUM COMPUTING TODAY

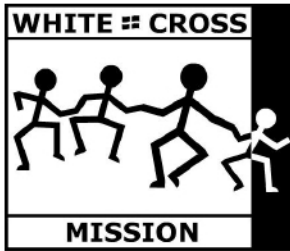


ZX F 09



ZX F 10





After Ceaucescu's death in 1990 over 120,000 children were discovered living in grim institutions. In the county of Jud Bihor in Western Romania, children who had been assessed as 'mentally retarded' at the age of three were sent to an institution in the country village of Cadea. They were housed in old buildings that had broken windows and no heating or plumbing. It was dark and dirty and for the majority of the time the children were confined to their cots. Most of them were tied to the bars by strips of cloth tied tightly around their wrists and ankles.

The children were always dirty, hungry and cold - sixty to seventy died every winter. Their original 'retardation' was the result of early illnesses such as pneumonia and bronchitis, and years of confinement at Cadea only compounded the problem. When they were finally released in January 1991, many could neither walk nor speak. All of the children rocked backwards and forwards in their distress; their eyes were glazed and unseeing. On release, many of the children were sent to hospital buildings in the mountain villages of Remeti and Bratca. It is here that the White Cross started assisting the local Romanian staff in their care.

Since the White Cross has been working with the children, over 600 people have travelled with the Mission to Romania. Some have only been able to give a few days of concentrated work, most average two months and one stayed for four years! Some work with the children, others repair the buildings and yet others deliver goods. Every volunteer is special. They raise their own money for air and train fares, insurance, food and electricity and more than half of them do it all over again and go out for a second or even third time. Old or young, with or without qualifications, the combined work and presence of these many different people has had an amazing impact on the children.

Children with blank, unseeing eyes, rocking in a world of their own are now healthy, laughing and boisterous. The accumulative effect of the White Cross volunteers with their mixture of naivety and experience, their energy, their perseverance, their hopes, their dreams and their many different ways of showing love has created a rainbow effect of bouncy, confident and individual children.

Fundatia Crucea Alba has helped White Cross Mission with the legalities of purchasing small farms, employing assistants and moving children from the mental institutions in order to live a normal family village life. We intend that these farms will be the children's homes for as long as they need. All their lives if necessary.

Buying the farms is only the beginning of a lifetime commitment to those children we take out of State care. Without a regular financial safety net we would be irresponsible if we established too many homes. We do, however, believe that this is the only way forward and are desperate for substantial funding.

The White Cross Mission is a Charitable Trust Registered in England No 1021176

52, Gwel-an-nans, Probus, Cornwall, TR2 4ND, United Kingdom

Tel (+44) (0)1726 884344 Fax (+44) (0)1726 884345 Mob (+44) (0)7775700893

Email wcm@whitecross.org.uk

www.the-white-cross.ndirect.co.uk